SITE DEVELOPMENT PLAN
ANIMAL MEDICAL HOSPITAL AT GLENWOOD
GREEN MEADOWS LOT 5
TAX MAP No. 14 GRID No. 11 P/O PARCEL Nos. 217

SHEET INDEX

SHEET NUMBER	DESCRIPTION
1	TITLE SHEET
2	DEMOLITION PLAN
3	SITE DEVELOPMENT PLAN, FOREBAY #1 PROFILES & RECHARGE TRENCH DETAIL
4	SEDIMENT CONTROL PLAN AND TRAFFIC CONTROL PLAN
5	DRAINAGE AREA MAP, SOILS MAP AND HANDICAP PARKING / ACCESS PLAN
6	STORM DRAIN PROFILES, STRUCTURE SCHEDULE AND BORING LOGS
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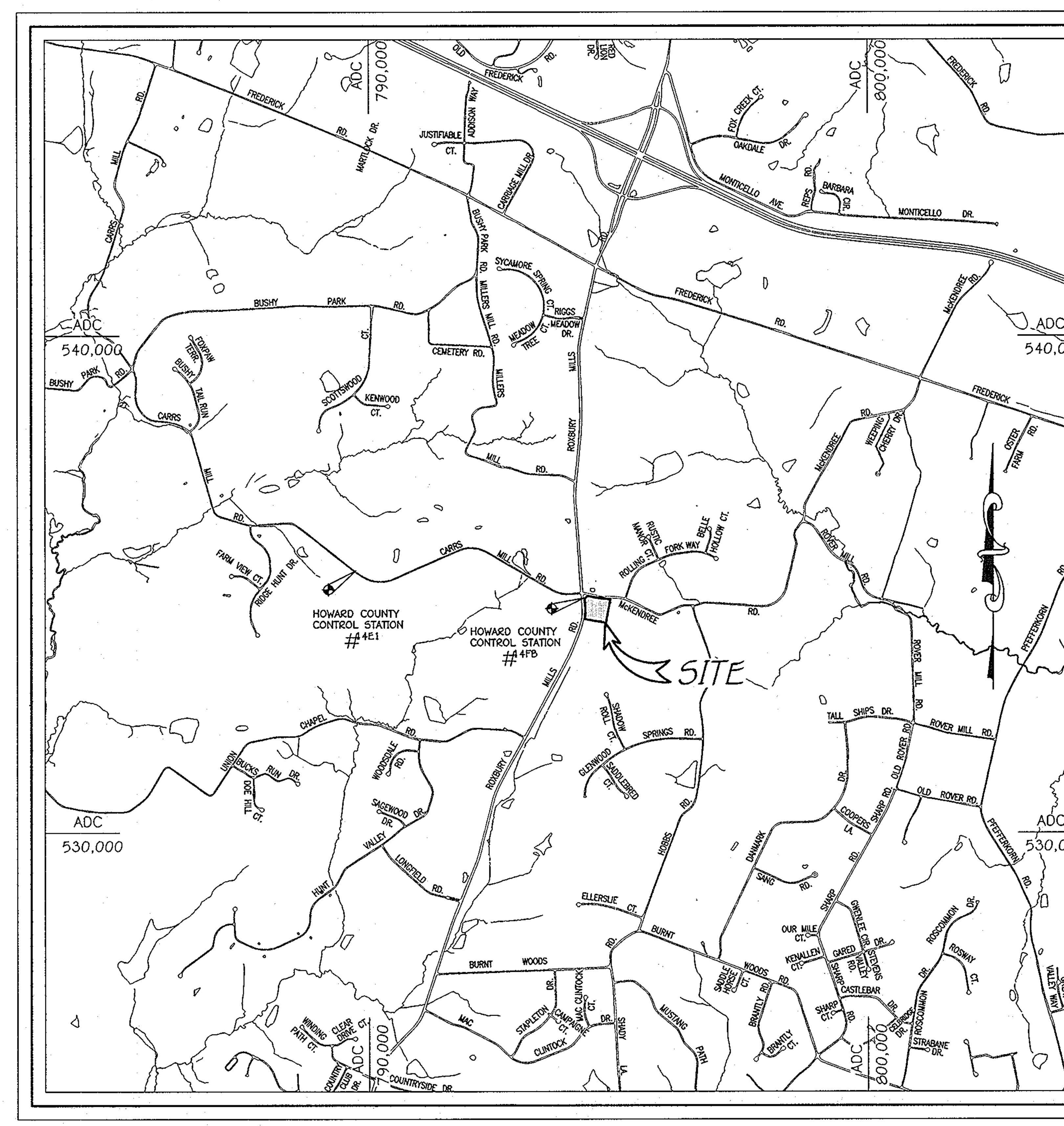
19	AFFORESTATION NOTES

NOTE: THE PURPOSE OF THIS PLAN IS TO REPLACE THE SWM POND WITH THE NEW CHAPTER 5 STANDARDS AND REGULATIONS, ENLARGE THE KENNEL/GROOMING BUILDING BY 20' IN LENGTH AND LABEL THE ANIMAL MEDICAL HOSPITAL AS FUTURE.



VICINITY MAP

SCALE: 1" = 2000'
ADC MAP 9

FOURTH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SITE ANALYSIS DATA

1. General Site Data:
   A. Present Zoning: RR-DEO
   B. Proposed use of site or structures: Animal Medical Hospital; Dog Kennel And Pet Grooming Establishment
   C. Private water and sewer to be utilized.
2. Area Tabulation:
   A. Total project area: 5.00 Ac±
   B. Area of this plan submission: 5.00 Ac.± is the limit of submission and grading disturbance for the construction of the animal medical hospital and associated parking.
   C. Impervious Coverage:
      Proposed Paved Areas (Parking and Walkways) – 45,459 Sq.Ft.
      Building No.1 Coverage: 10,800 Sq.Ft Hospital Building
      Building No.2 Coverage: 3,744 Sq.Ft. Kennel/Grooming Building
      Building Coverage: 14,544 Sq.Ft or 6.67% for the 5.00 Ac. Parcel
3. Open Space Data:
   A. Total project area: N/A
   B. Open Space Provided: N/A
4. Parking Space Data:
   A. The Number of vehicle parking spaces required in accordance with the Board of Appeals (BA 06-007c) decision and order dated January 17, 2007 = 32 and reserve space for 15 additional spaces if needed in the future.
   B. Total number of parking spaces provided on site: (Including handicap Parking) = 32 and 2 trailer parking spaces
   C. Number of Handicaped parking spaces provided: (Including Handicap Van Spaces) = 2
5. Maximum number of employees per day: 12
6. Animal Medical Hospital Building
   1st Floor Use Animal Medical Hospital 10,800 Square Feet
   2nd Floor Use Storage And Mechanical Equipment Area 1,600 Square Feet
   Kennel/Grooming Building
   1st Floor Use Kennel/Grooming Area 3,744 Square Feet

General Notes

1. All construction shall be accordance with the latest standards and specifications of Howard County plus MSHA standards and specifications if applicable.
2. The contractor shall notify the Bureau of Engineering/Construction Inspection Division at 410-313-1880 at least five working days prior to start of work.
3. The contractor shall notify Miss Utility at 1-800-257-7777 at least 48 hours prior to any digging and excavation work.
4. Project Background: Location:
   Tax Map 14, Grid 11,
   P/O Parcel 217
   Zoning: The subject property is zoned RR-DEO per the 2-2-04 Comprehensive Zoning Plan and the "Comp Lite" Zoning Amendments effective 7-28-06.
   Election District: FOURTH
   Section/Area: N/A
   Site Area: 5.00 Ac.±
5. Traffic control devices, markings and signing shall be in accordance with the latest edition of the manual on Uniform Traffic Control Devices (MUTCD). All street and regulatory signs shall be in place prior to placement of any asphalt.
6. All plan dimensions are to the face of curb or face of building unless otherwise noted. Dimensions are measured perpendicular or radial between items unless otherwise noted.
7. Existing topography and features were derived from a field run monumented boundary survey by Fisher, Collins and Carter Inc. and Harford Aerial Surveys inc. on or about October 2005 and November 2006.
8. Coordinates are based on NAD 83 Maryland Coordinates System as projected by Howard County Geodetic Control Stations.
   14E1 N 596,213.62 E 1,301,991.89 ELEV. 590.335
   14FB N 595,657.26 E 1,306,552.16 ELEV. 619.858
9. Private water and sewer is to be utilized for this project.
10. The required Environmental Site Design volume is provided on-site by 2 micro bio-retention facilities, 2 submerged gravel wetland facilities and a non-rooftop disconnection credit. The Stormwater Management Facilities will be privately owned and maintained.
11. All on-site storm drains under this site development plan are private.
12. The existing utilities shown hereon were derived from available public records. The contractor must dig test pits by hand at all utility crossings and connection points to verify the exact location.
13. All proposed ramps shall be in accordance with current A.D.A. Standards Accessibility Guidelines. Maximum sidewalk cross slope shall be two percent. Provide a (5'x5') five foot by five foot level landing (max. slope 2%) at the top and bottom of all ramps and building entrances and exits. Handrails shall be provided on all ramps in accordance with section 4.8.5 of the A.D.A. Standards Accessibility Guidelines.
14. All driveways and parking are privately owned and maintained.
15. Any damage to County and or State owned right-of-way to be corrected at the contractor's expense.
16. Trench bedding for storm drains structures shall be in accordance with Howard County Standard G2.01 Class C Bedding unless otherwise noted.
17. Gutter pan of curbs shall be pitched to conform to the adjacent drainage patterns of the adjoining paving for vehicular use. See detail on Sheet 7.
18. For details of building profile, parking, road section, handicap, curb and gutter see Sheet 7.
19. There are no known grave sites or cemeteries on this site based on a visual site visit and based on an examination of the Howard County Cemetery Inventory MRP.
20. This Project is recorded among the land records in Howard County, Maryland as Plat No. 19072.
21. Other topics related to this site:
    Soils Analysis prepared by: Penniman and Browne dated March 27, 2007.
    Traffic Study for this project was prepared by the Mars Group dated May 2007.
22. All outside lighting shall comply with Zoning Regulations Section 134 which requires lights to be installed to direct/reflect light downwards and inwards on the site and away from all public streets and residential areas and the light trespass onto any adjoining property zoned RR-DEO shall not exceed 0.1 foot candles.
23. The buildings shall be equipped with an automatic fire prevention sprinkler system.
24. There are no streams, stream buffers, flood plain, wetlands, wetlands buffers, steep slopes (25% slopes or greater) and forest conservation easement areas within Green Meadows Subdivision Lot 5.
25. Previous DPZ file numbers VP78-21, VP78-67, F78-119, F03-187, F87-206, F07-142, BA 06-007c and F-08-100.
26. [hatched symbol] This area designates a private sewerage easement of 10,000 square feet as required by the Maryland State Department of the Environment for individual sewerage disposal. Improvements of any nature in this area are restricted until public sewerage is available. These easements shall become null and void upon connection to a public sewerage system. The County Health Officer shall have the authority to grant adjustments to the private sewerage easement. Recordation of a modified sewerage easement shall not be necessary. Adjustments to the septic easement area is not permitted without additional testing.
27. The lot shown hereon complies with the minimum ownership width and lot area as required by the Maryland State Department of the Environment.
28. Existing wells and/or sewerage easements within 100 feet of the property have been shown from the best available information.
29. Percolation tests were done in April 2006. A524359
30. All sign posts used for traffic control signs installed in the County right-of-way shall be mounted on a 2" galvanized steel, perforated, square tube post (14 gauge) inserted into a 2-1/2" galvanized steel, perforated, square tube sleeve (12 gauge) – 3' long. A galvanized steel pole cap shall be mounted on top of each post.
31. This SDP is subject to the Amended Fifth Edition of the Subdivision and Land Development Regulations per Council Bill No. 45-2003 and the Amended Zoning Regulations per Council Bill No. 75-2003. Development or construction on this property must comply with setback and buffer regulations in effect at the time of submission of the site development plan, waiver petition application or building/grading permit applications.
32. This plan is subject to Board Of Appeals BA Case No. 06-007C. The decision and order by the Howard County Board of Appeals was approved on January 17, 2007 for a conditional use for an animal hospital and a dog kennel and pet grooming establishment in an RR-DEO zoned property subject to the following conditions:
    1. The conditional uses shall be conducted in conformance with and shall apply only to the proposed animal hospital, kennel, and pet grooming facility as described in the petition and as depicted on the Conditional Use Plan for the "Second Amended Conditional Use Plan for Animal Hospital – AMH Equine Services", submitted to the Board on October 26, 2006 as Petitioner's Exhibit No. 4, as amended, and not to any activities, uses, or structures on the Property.
    2. The Petitioner shall provide 32 parking spaces and reserve space for an additional 15 spaces on the plan.
    3. The south landscape buffer shall be the equivalent of a Type D (screen) landscape buffer.
    4. The Petitioner shall comply with all applicable federal, state, and county laws and regulations.
33. The forest conservation requirements per Section 16.1200 of the Howard County Code and the Forest Conservation Manual for this subdivision will be fullfilled by providing the afforestation requirement of 1.00 acre at The Mirabile Property shown on Sheet 21. Surety required: $0.50/SF x 43560 SF = $21,780.00. Plat no. 19889.
34. On July 23, 2007, Howard County Department of Planning and Zoning approved the following alternative compliance requests: To Design Manual 1, Section 5.2.5.F, to allow the use of specific impervious cover to determine the proposed RCN. Approved based on the proposed construction has much less density than the proposed zoning.
    Section 5.2.7.A.4, to allow wet pond built without pond drain. Approved based on the fact that the pond is privately owned and maintained.
    Section 5.2.4.1, to allow less than 25' distance from the riprap outfall or the toe of embankment slope to downstream property line. Approved based on the downstream owner agreed and provided a letter indicating that they have no problem with less than 25' distance from the riprap of outfall or the toe of embankment slope to downstream property line.
    Adding a note in bold text on the SDP plan: 'Any further construction and/or subdivision (including where LOD is less than 5,000 SF) shall require additional SWM and revaluation of CPv criteria for entire lot.
35. On July 31, 2007, Howard County Department of Planning and Zoning denied the following alternative compliance requests: To Design Manual, Volume I
    Section 5.2.4.G, Trees shall not be allowed to grow on the dam and within 15' of the toe of the pond dam, or within 25' of the principal spillway. The denial is based principally on the fact that (1) the proposed pond is a MD378 facility, (2) "15' no woody zone" is essential for embankment core trench.
36. This plan has been prepared in accordance with the provisions of Section 16.124 of the Howard County Code and the Landscape Manual. Required Landcape surety for the 31 shade trees and 88 evergreen trees in the amount of $22,500.00 has been posted as a part of the developer's agreement.
37. The Knox Box location shown on sheet 3 shall be placed to the right of the main entrance at a range of 4-5 feet in height and no more than 6 feet laterally from the door. The Knox Box shall be electronically supervised to notify the owner that it is being accessed and intergrated with the fire alarm system (NFPA-1 10.12.1).
38. The Animal Medical Hospital Building and the Kennel/Grooming Building will have a complete automatic fire suppression system designed in accordance with NFPA#13. The water supply tank shall be installed in accordance with the August 2007 draft of Howard County Specifications for Underground Water Storage Tanks for Fire Protection.
39. That the two (2) year time period for obtaining a building permit and the three (3) year time period for the completion of substantial construction of the conditional use, as required by section 131.13 of the Howard County zoning regulations be and the same is hereby extended until January 17, 2012 and January 17, 2013, respectively.

"Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 13204, Expiration Date: November 3, 2012."

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWAGE SYSTEMS
HOWARD COUNTY HEALTH DEPARTMENT

BW for Peter Beilenson — COUNTY HEALTH OFFICER — 2/22/2011 DATE

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK – 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 – 2855

DATE	DESCRIPTION
6/16/11	REVISED SITE ANALYSIS DATA

REVISION BLOCK

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Signature	Date
Marsha S. Butler — Director – Department of Planning and Zoning	2/25/11
Kent Sheubrooks — Chief, Division of Land Development (TAM)	2/25/11
Chief, Development Engineering Division (NY)	2/10/11

OWNER/DEVELOPER
ANIMAL MEDICAL HOSPITAL
AT GLENWOOD
2465 MARYLAND ROUTE 97
SUITE 7
GLENWOOD, MARYLAND 21738
DR. STUART N. SCHEINBERG D.V.M.
(410) 489-9677

Address Chart

BUILDING NO.	STREET ADDRESS
1. HOSPITAL	2890 McKENDREE ROAD
2. KENNEL	2892 McKENDREE ROAD

PROJECT			SECTION/AREA	PARCEL	LOT
ANIMAL MEDICAL HOSPITAL DOG KENNEL AND PET GROOMING ESTABLISHMENT			N/A	P/O 217	5

PLAT REF.	BLOCK NO.	ZONE	TAX MAP	ELEC. DIST.	CENSUS TR.
19072	11	RR-DEO	14	FOURTH	6040.02

WATER CODE N/A — SEWER CODE N/A

TITLE SHEET

ANIMAL MEDICAL HOSPITAL
AT GLENWOOD
GREEN MEADOWS
LOT 5

TAX MAP No.: 14 GRID No.: 11
PLAT NO. 19072 P/O PARCEL No.: 217
FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: JANUARY 26, 2011

SHEET 1 OF 19 SDP-08-004

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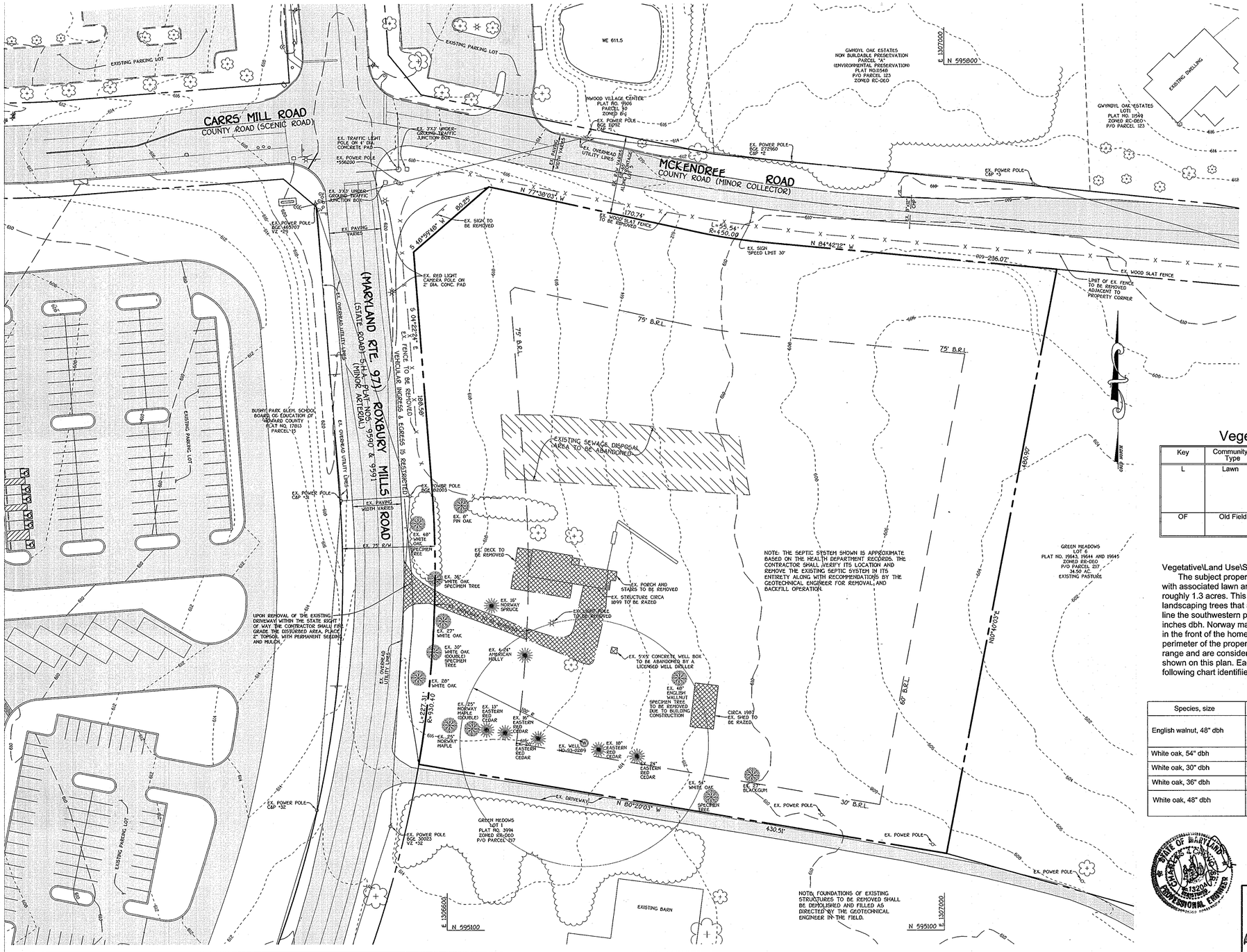

LEGEND

Description	Symbol
Existing Contour	608
Existing Storm Drain Line	ex. 8"x12" CMP
Existing Treeline	
Existing Fence	— x — x —
Existing Sewerage Easement	
Areas to be Removed	
Existing Paving	

Vegetative Community Data

Key	Community Type	Acreage	Dominant Vegetation	General Condition	Priority Acreage
L	Lawn	1.3	Lawn grasses and ornamental/landscaping species typical species include Juniperus virginiana, Quercus alba, Picea abies, Ilex opaca, Acer platanoides	Good	0
OF	Old Field	3.7	Festuca arundinacea Festuca sp.	Good	0

See accompanying report for complete stand descriptions.

Vegetative\Land Use\Specimen Tree Note:

The subject property is currently utilized as a single family home with associated lawn and pasture areas. The home/lawn area occupies roughly 1.3 acres. This area includes maintained lawn with mature landscaping trees that are generally in good condition. Red Cedar trees line the southwestern property limits. These trees are generally 12-16 inches dbh. Norway maple, Norway spruce and American holly are present in the front of the home. White oak and pin oak are present along the perimeter of the property. Several of these trees reach the 30 inch dbh range and are considered specimen trees. The location of these trees is shown on this plan. Each specimen tree is in good condition. The following chart identifiies each specimen tree:

Species, size	Condition	Retention Potential
English walnut, 48" dbh	good	This tree cannot be retained while meeting the development goals of the site. The tree is located in the development zone.
White oak, 54" dbh	good	This tree can be ret ained.
White oak, 30" dbh	good, double stem	This tree can be retained.
White oak, 36" dbh	good	This tree can be retained by this project but is on the property limits.
White oak, 48" dbh	good	This tree is offsite, within the road right of way. It will be retained as part of this project.

STATE OF MARYLAND
BRIAN DIXON
No. 13204
PROFESSIONAL ENGINEER

"Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 13204, Expiration Date: November 3, 2008."

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWAGE SYSTEMS
HOWARD COUNTY HEALTH DEPARTMENT

B. Dixon for Peter Berlenson, MD 7/2/2008
COUNTY HEALTH OFFICER DATE

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

DATE	DESCRIPTION
1-26-11	REVISE SHEET NUMBER.

REVISION BLOCK

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Director - Department of Planning and Zoning — Date 7/2/08
Chief, Division of Land Development — Date 7/1/08
Chief, Development Engineering Division — Date 5.21.08

OWNER/DEVELOPER
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PROJECT			SECTION/AREA	PARCEL	LOT
ANIMAL MEDICAL HOSPITAL DOG KENNEL AND PET GROOMING ESTABLISHMENT			N/A	P/O 217	5
PLAT REF.	BLOCK NO.	ZONE	TAX MAP	ELEC. DIST.	CENSUS TR.
19072	11	RR-DEO	14	FOURTH	6040.02
WATER CODE	N/A		SEWER CODE	N/A	

DEMOLITION PLAN

ANIMAL MEDICAL HOSPITAL AT GLENWOOD

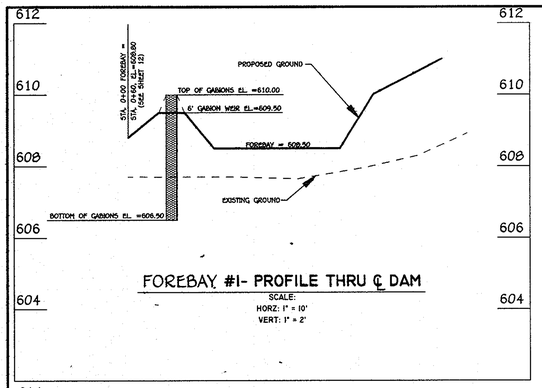
GREEN MEADOWS
LOT 5

TAX MAP No.: 14 GRID No.: 11
PLAT NO. 19072 P/O PARCEL No.: 217
FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: 1" = 40' DATE: FEBRUARY 11, 2007

SHEET 2 OF 19 SDP-08-004

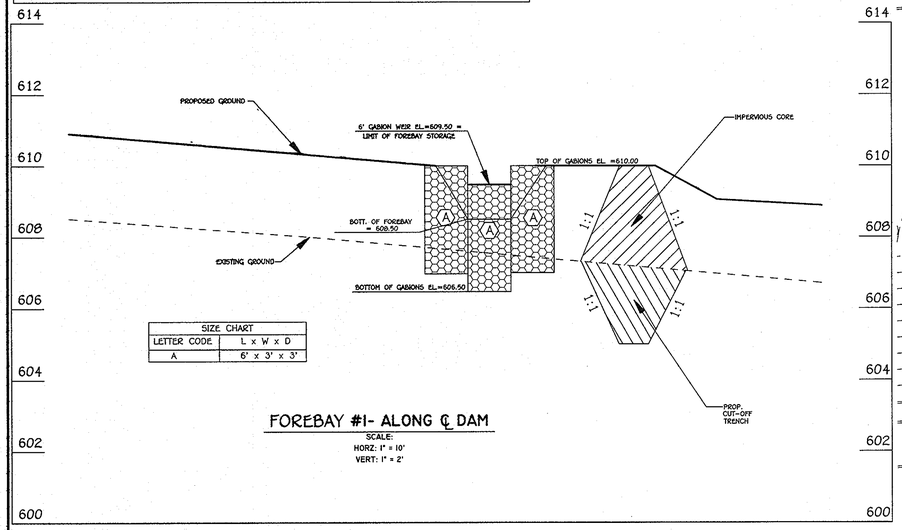
SDP-08-004

I:\2005\05990\dwg\05990 DEMOLITION PLAN (SHEET 2).dwg, DEMO PLAN (SHEET 2), 1:1



FOREBAY #1- PROFILE THRU ℄ DAM

SCALE:
HORZ: 1" = 10'
VERT: 1" = 2'



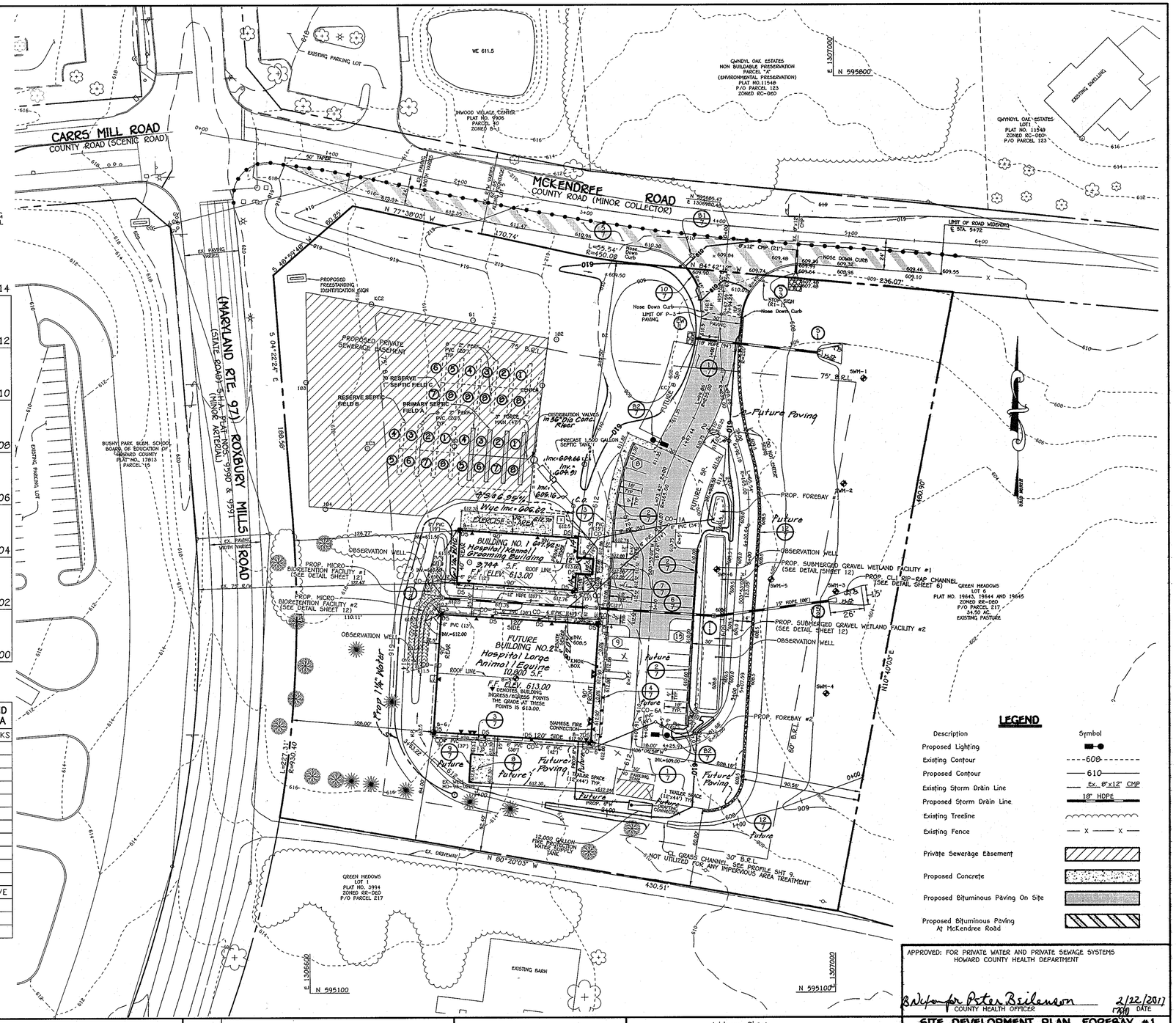
SIZE CHART	
LETTER CODE	L x W x D
A	6' x 3' x 3'

FOREBAY #1- ALONG ℄ DAM

SCALE:
HORZ: 1" = 10'
VERT: 1" = 2'

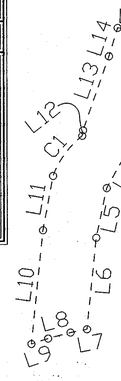
- DENOTES UNDERGROUND RECHARGE AREA (SEE DETAIL THIS SHEET)

NOTE: THE PURPOSE OF THIS PLAN IS TO REPLACE THE SWM POND WITH THE NEW CHAPTER 5 STANDARDS AND REGULATIONS, ENLARGE THE KENNEL/GROOMING BUILDING BY 20' IN LENGTH AND LABEL THE ANIMAL MEDICAL HOSPITAL AS FUTURE.



CLEANOUT STRUCTURE SCHEDULE

STRUCTURE NO.	TOP ELEVATION	INV.IN	INV.OUT	COORDINATES		WIDTH	TYPE	REMARKS
CO-1	612.60	610.16 (8"),610.16 (8")	610.06 (8")	595,447.40	1,306,820.55	6"	STD CLEANOUT	S. - 2.14
CO-2	612.75	610.09 (6"), 610.09 (6")	609.84 (6")	595,406.96	1,306,818.05	6"	STD CLEANOUT	S. - 2.14
CO-3	612.90	609.90 (6"), 609.90 (6")	609.80 (6")	595,384.86	1,306,822.94	6"	STD CLEANOUT	S. - 2.14
CO-4	612.80	610.40 (6"), 610.40 (6")	610.30 (6")	595,387.50	1,306,781.09	6"	STD CLEANOUT	S. - 2.14
CO-5	612.80	610.69 (6")	610.59 (6")	595,390.23	1,306,742.68	6"	STD CLEANOUT	S. - 2.14
CO-6	612.89	610.02 (6"), 610.02 (6")	609.92 (6")	595,287.22	1,306,816.54	6"	STD CLEANOUT	S. - 2.14
CO-7	612.80	610.33 (6"), 610.33 (6")	610.23 (6")	595,290.16	1,306,772.92	6"	STD CLEANOUT	S. - 2.14
CO-8	612.87	610.62 (6"), 610.62 (6")	610.52 (6")	595,292.99	1,306,734.51	6"	STD CLEANOUT	S. - 2.14
CO-9	612.75	610.91 (6")	610.81 (6")	595,295.38	1,306,695.37	6"	STD CLEANOUT	S. - 2.14
CO-10	611.32	-	607.30 (6")	595,350.59	1,306,695.25	6"	STD CLEANOUT	S. - 2.14
CO-11	610.50	-	607.25 (6")	595,412.78	1,306,699.14	6"	STD CLEANOUT	S. - 2.14
CO-1A	610.90	609.10 (6"), 609.10 (6")	608.85 (6")	595,457.40	1,306,673.95	6"	STD CLEANOUT	S. - 2.14
CO-6A	610.30	609.30 (6")	609.20 (6")	595,306.75	1,306,863.53	6"	STD CLEANOUT	S. - 2.14



UNDERGROUND GROUND WATER RECHARGE AREA

LABEL	LENGTH	RADIUS	REMARKS
L1	6.34'	- - -	
L2	30.83'	- - -	
L3	2.69'	- - -	
L4	12.81'	- - -	
L5	14.20'	- - -	
L6	25.71'	- - -	
L7	4.70'	- - -	
L8	6.46'	- - -	
L9	4.89'	- - -	
L10	31.96'	- - -	
L11	15.48'	- - -	
C1	14.10'	25.80'	CURVE
L12	1.56'	- - -	
L13	21.95'	- - -	
L14	8.31'	- - -	

RECHARGE TRENCH DETAIL

SCALE: 1" = 20'

LEGEND

Description	Symbol
Proposed Lighting	
Existing Contour	608
Proposed Contour	610
Existing Storm Drain Line	Ex. 8"x12" CMP
Proposed Storm Drain Line	18" HDPE
Existing Treeline	
Existing Fence	— X — X —
Private Sewerage Easement	
Proposed Concrete	
Proposed Bituminous Paving On Site	
Proposed Bituminous Paving At McKendree Road	

"Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland. License No. 13204, Expiration Date: November 3, 2012."

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWAGE SYSTEMS
HOWARD COUNTY HEALTH DEPARTMENT

for Peter Beilenson — COUNTY HEALTH OFFICER — 2/22/2011 DATE

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

DATE	DESCRIPTION
6-16-11	Removed 6" Water to Bldg No. 2, revised footprint dimensions & sq.ft. of Bldg No. 1.

REVISION BLOCK

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Director - Department of Planning and Zoning	2/25/11 Date
Chief, Division of Land Development	2/25/11 Date
Chief, Development Engineering Division NT	2/10/11 Date

OWNER/DEVELOPER
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19072	11	RR-DEO	14	FOURTH	6040.02
WATER CODE N/A			SEWER CODE N/A		

SITE DEVELOPMENT PLAN, FOREBAY #1 PROFILES AND RECHARGE TRENCH DETAIL

ANIMAL MEDICAL HOSPITAL AT GLENWOOD

GREEN MEADOWS
LOT 5

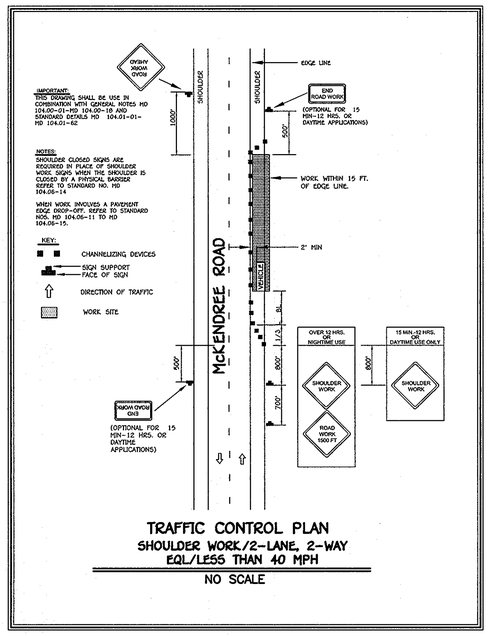
TAX MAP No.: 14 GRID No.: 11
PLAT NO. 19072 P/O PARCEL No.: 217
FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: 1" = 40' DATE: JANUARY 26, 2011

SHEET 3 OF 19 SDP-08-004

I:\2005\05090\dwg\05090 REPLACEMENT SHEET SITE DEVELOPMENT PLAN (SHEET 3).dwg, 1/26/2011 9:53:35 AM, 36 Wide:pc3

LEGEND

Description	Symbol
Proposed Lighting	
Existing Contour	608
Proposed Contour	610
Existing Storm Drain Line	Ex. 8"x12" CMP
Proposed Storm Drain Line	18" HDPE
Existing Treeline	
Silt Fence	SF
Super Silt Fence	SSF
Existing Fence	
Limit of Grading Disturbance (L.O.D.)	
Private Sewerage Easement	
Proposed Concrete	
Proposed Bituminous Paving On Site	
Proposed Bituminous Paving At McKendree Road	
Tree Protection Fencing (See Detail on Sheet 21)	TP



TRAFFIC CONTROL PLAN
SHOULDER WORK/2-LANE, 2-WAY EQL/LESS THAN 40 MPH

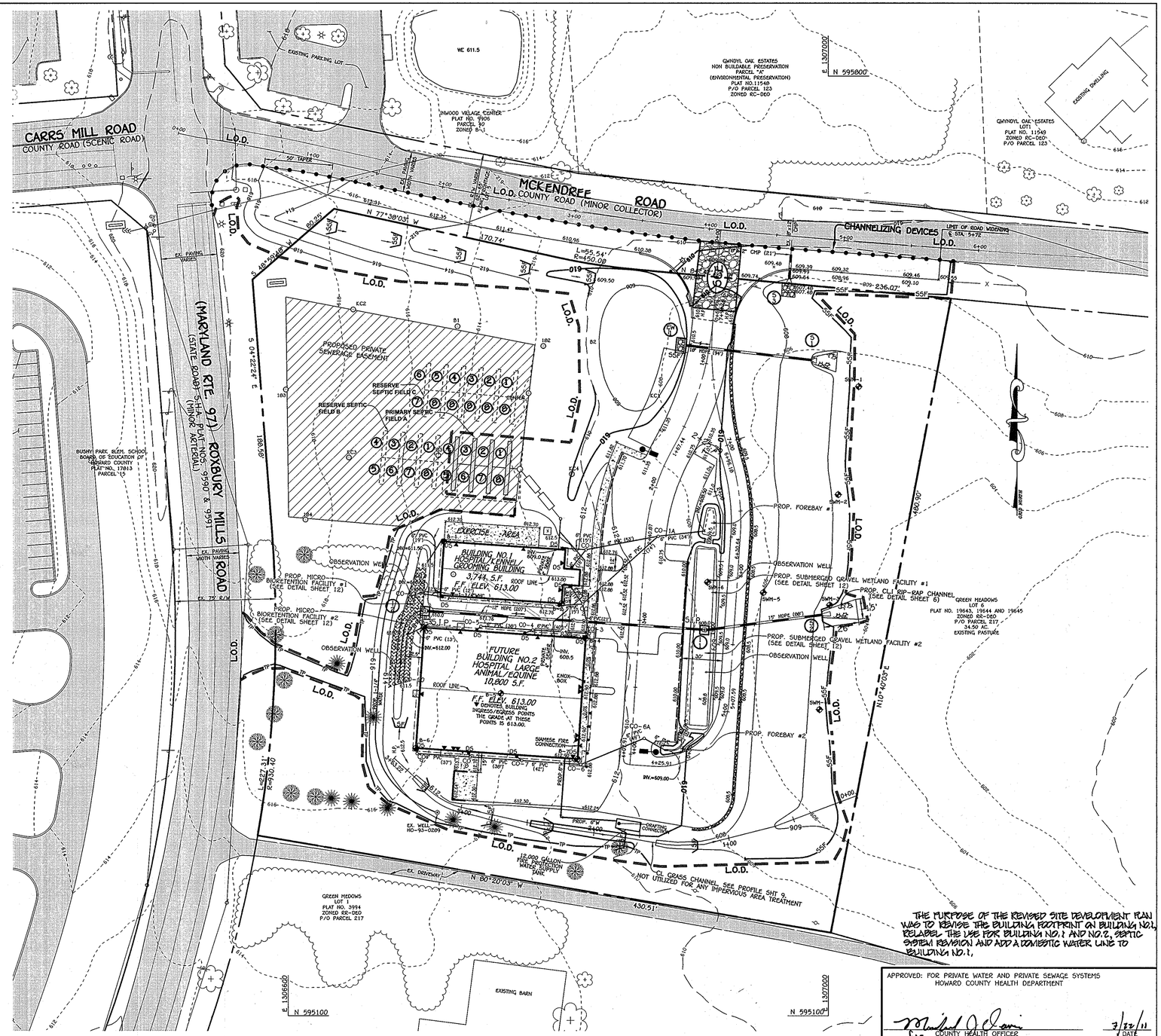
NO SCALE

SEQUENCE OF CONSTRUCTION

1. OBTAIN GRADING PERMIT AND DEMOLITION PERMIT FOR THE EXISTING STRUCTURES. (1 DAY) INSTALL TREE PROTECTION FENCING AS SHOWN ON THIS PLAN. FENCING SHALL BE INSTALLED PRIOR TO SITE GRADING.
2. NOTIFY "MISS UTILITY" (1-800-257-7777) AT LEAST 48 HOURS BEFORE STARTING WORK AND NOTIFY THE HOWARD COUNTY DIVISION OF CONSTRUCTION INSPECTION (410-313-1870) 24 HOURS BEFORE STARTING WORK.
3. INSTALL ALL SEDIMENT CONTROL DEVICES (S.C.E., SILT FENCE, SUPER SILT FENCE). OBTAIN PERMISSION FROM THE SEDIMENT CONTROL INSPECTOR PRIOR TO PROCEEDING. (1 MONTH)
4. CONSTRUCT AND IMMEDIATELY STABILIZE THE PROPOSED SWALE ALONG THE SOUTH EDGE OF THE DEVELOPMENT. (1 WEEK)
5. DEMOLISH AREAS SHOWN ON SHEET 2. ALL DEMOLISHED MATERIALS SHALL BE COMPLETELY REMOVED FROM THE SITE AND DISPOSED OF PROPERLY. (3 WEEKS)
6. GRADE SITE TO THE PROPOSED GRADES AND IMMEDIATELY STABILIZE ALL SLOPES UPON COMPLETION OF GRADING WITH TEMPORARY SEEDING. AS FILL PROGRESSES, SUPER SILT FENCE MUST BE INSPECTED AND REPAIRED IF NECESSARY UPON WEEKLY REVIEW BY HOWARD COUNTY SEDIMENT CONTROL INSPECTOR. (2 MONTHS)
7. BEGIN CONSTRUCTION OF BUILDINGS. (8 MONTHS)
8. CONSTRUCT WATER, SEWER AND STORM DRAIN SYSTEM AND INLET PROTECTION WITH THE EXCEPTION OF THE MICRO BIO-RETENTION FACILITIES AND SUBMERGED GRAVEL WETLAND. THE PIPE ENTRANCE TO THE RECHARGE STONE TRENCH AT INLET I-2 AND I-1 SHALL BE BLOCKED AND WATERTIGHT. (4 WEEKS)
9. INSTALL CURB AND GUTTER. (1 WEEK)
10. CONSTRUCT ALL (4) FOUR SWM FACILITIES; 2-MICRO BIO-RETENTION FACILITIES, 2-SUBMERGED GRAVEL WETLANDS AND BLOCK (WATERTIGHT) ENTRANCE TO THESE FACILITIES IN I-1 AND I-2. (2 WEEKS)
11. PAVE PARKING LOT, ROADWAYS, AND McKENDREE ROAD WIDENING. (1 MONTH)
12. COMPLETE CONSTRUCTION OF BUILDINGS, SIDEWALK, AND EXERCISE AREA. (1 MONTH)
13. STABILIZE ALL DISTURBED AREAS WITH SEED AND MULCH IN ACCORDANCE WITH THE PERMANENT SEEDING SPECIFICATIONS. (1 WEEKS)
14. INSPECT STORM DRAIN SYSTEM AND FLUSH/CLEAN AS NECESSARY TO ENSURE NO REMAINING SEDIMENT. (1 DAY).
15. FOLLOWING SUCCESSFUL STABILIZATION (i.e., ESTABLISHED VEGETATION OR PAVING) OF ALL DISTURBED AREAS, OBTAIN PERMISSION FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR TO REMOVE ALL REMAINING SEDIMENT AND EROSION CONTROL DEVICES. THEN STABILIZE THOSE AREAS DISTURBED BY THIS PROCESS WITH PERMANENT SEEDING. UNBLOCK ENTRANCES TO MICRO BIO-RETENTION AND SUBMERGED GRAVEL WETLAND FACILITIES IN I-1 AND I-2. (1 WEEK)

SEQUENCE NOTE: THE CONTRACTOR SHALL INSPECT AND PROVIDE NECESSARY MAINTENANCE ON ALL SEDIMENT AND EROSION CONTROL STRUCTURES SHOWN HEREON AFTER EACH RAINFALL EVENT AND ON A DAILY BASIS. REMOVE SEDIMENTS FROM THE SEDIMENT BASINS WHEN CLEAN OUT ELEVATIONS ARE REACHED. ALL SEDIMENTS MUST BE PLACED UPSTREAM OF ANY APPROVED BASIN.

"Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 13204, Expiration Date: November 3, 2012."



THE PURPOSE OF THE REVISED SITE DEVELOPMENT PLAN WAS TO REVISE THE BUILDING FOOTPRINT ON BUILDING NO.1, RELABEL THE USE FOR BUILDING NO.1 AND NO.2, SEPTIC SYSTEM REVISION AND ADD A DOMESTIC WATER LINE TO BUILDING NO.1.

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWAGE SYSTEMS
HOWARD COUNTY HEALTH DEPARTMENT

for COUNTY HEALTH OFFICER — DATE 7/22/11

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK – 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 – 2855

DEVELOPER'S CERTIFICATE

"I/We certify that all development and construction will be done according to this plan for sediment and erosion control, and that all responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District."

Signature of Developer — Date 6/23/11

Stuart Scheinberg
Printed Name Of Developer

~~These plans have~~ been reviewed For The Howard Soil Conservation District and meet the technical requirements.

~~USDA-Natural Resources Conservation Service~~ — Date

ENGINEER'S CERTIFICATE

"I certify that this plan for sediment and erosion control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District."

Signature of Engineer — Date 6/23/11

CHARLES J. CARO, SR.
Printed Name Of Engineer

This development plan is approved for soil erosion and sediment control by the Howard Soil Conservation District.

Howard Soil Conservation District — Date 7/12/11

DATE	DESCRIPTION

REVISION BLOCK

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Director – Department of Planning and Zoning — Date 7/27/11

Chief, Division of Land Development — Date 7.26.11

Chief, Development Engineering Division — Date 7.14.11

OWNER/DEVELOPER

ANIMAL MEDICAL HOSPITAL
AT GLENWOOD
2465 MARYLAND ROUTE 97
SUITE 7
GLENWOOD, MARYLAND 21738
DR. STUART N. SCHEINBERG D.V.M.
(410) 489-9677

Address Chart

BUILDING NO.	STREET ADDRESS
1. HOSPITAL	2890 McKENDREE ROAD
2. KENNEL	2892 McKENDREE ROAD

PROJECT			SECTION/AREA	PARCEL	LOT
ANIMAL MEDICAL HOSPITAL DOG KENNEL AND PET GROOMING ESTABLISHMENT			N/A	P/O 217	5
PLAT REF.	BLOCK NO.	ZONE	TAX MAP	ELEC. DIST.	CENSUS TR.
19072	11	RR-DEO	14	FOURTH	6040.02
WATER CODE	N/A		SEWER CODE	N/A	

SEDIMENT CONTROL PLAN AND TRAFFIC CONTROL PLAN
"REVISED SITE DEVELOPMENT PLAN"
ANIMAL MEDICAL HOSPITAL AT GLENWOOD
GREEN MEADOWS
LOT 5

TAX MAP No.: 14 GRID No.: 11
PLAT NO. 19072 P/O PARCEL No.: 217
FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: 1" = 40' DATE: JANUARY 26, 2011

SHEET 4 OF 19 SDP-08-004

I:\2005\05030\Dwg\05030 REPLACEMENT SHEET PLAN (SHEET 4).dwg, SED CONT PLAN (SHEET 4), 6/16/2011 11:37:19 AM, 1:1

LEGEND

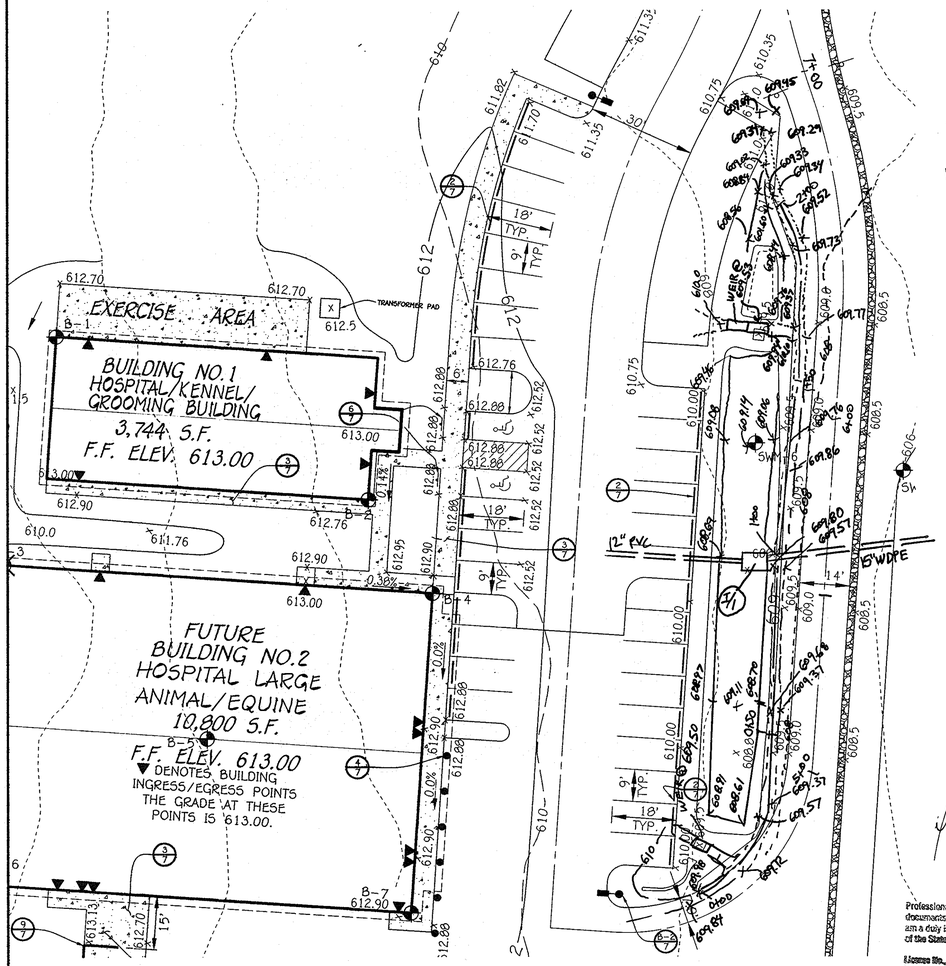
Description	Symbol
Proposed Lighting	
Existing Contour	600
Proposed Contour	610
Existing Storm Drain Line	Ex. 8"x12" CMP
Proposed Storm Drain Line	18" HDPE
Existing Treeline	
Existing Fence	— X — X —
Drainage Limits	
Private Sewerage Easement	
Proposed Concrete	

SOILS LEGEND

SOIL	NAME
Ba	Baile silt loam
ChA	Chester silt loam, 0 to 3 percent slopes
ChB2	Chester silt loams, 3 to 8 percent slopes, moderately eroded
GnA	Glenville silt loam, 0 to 3 percent slopes

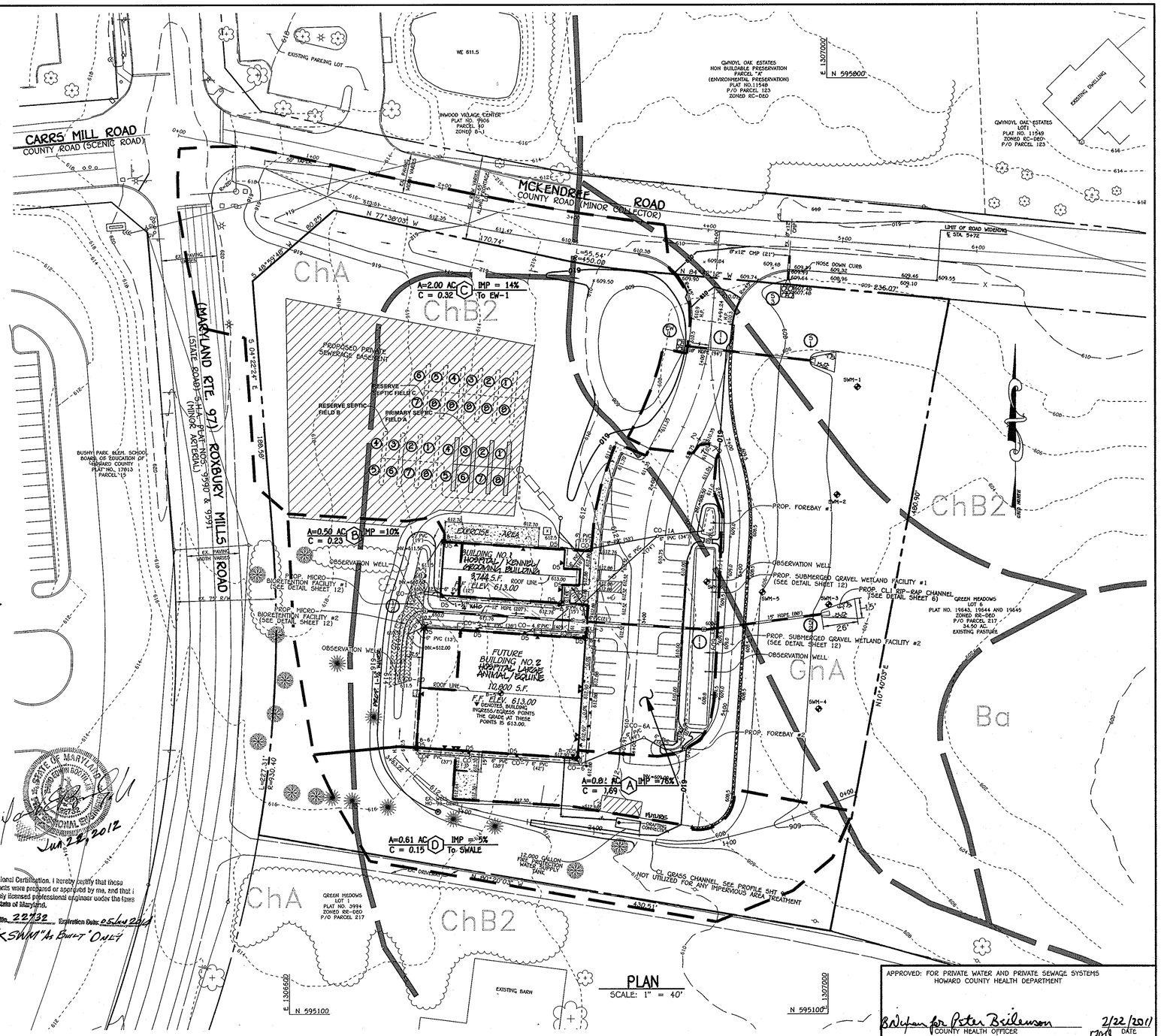
DRAINAGE AREA DATA

AREA NO.	STRUCTURE NO.	AREA (AC.)	"C"	% IMP.
A	I-1	0.70	0.69	76
B	I-2	0.50	0.23	10
C	EW-1	2.00	0.32	14
D	SWALE	0.61	0.15	5



HANDICAP PARKING / ACCESS PLAN

SCALE: 1" = 20'



PLAN

SCALE: 1" = 40'

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.
License No. 22732 Expiration Date: 25 Jun 2012
FOR SWM "As Built" ONLY

Jun 28, 2012

"Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 13204, Expiration Date: November 3, 2012."

NOTE: THE PURPOSE OF THIS PLAN IS TO REPLACE THE SWM POND WITH THE NEW CHAPTER 5 STANDARDS AND REGULATIONS, ENLARGE THE KENNEL/GROOMING BUILDING BY 20' IN LENGTH AND LABEL THE ANIMAL MEDICAL HOSPITAL AS FUTURE.

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWAGE SYSTEMS
HOWARD COUNTY HEALTH DEPARTMENT

B Wilson for Peter Benilenson 2/22/2011
COUNTY HEALTH OFFICER DATE

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
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Signature of Developer — Date 1/28/11

DR. STUART N. SCHEINBERG
Printed Name Of Developer

~~These plans have been reviewed For The Howard Soil Conservation District and meet the technical requirements.~~

USDA-Natural Resources Conservation Service — Date

ENGINEER'S CERTIFICATE

"I certify that this plan for sediment and erosion control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District."

Signature of Engineer — Date 1/28/11

CHARLES J. CROVO SR.
Printed Name Of Engineer

This development plan is approved for soil erosion and sediment control by the Howard Soil Conservation District.

Howard Soil Conservation District — Date 2/9/11

DATE	DESCRIPTION
6/10/11	REVISED 6" WATER TO BLDG. NO.1 REVISED EQUIPMENT AND SQUARE FOOTAGE OF BLDG. NO.1 AND REVISED SEPTIC SYSTEM

REVISION BLOCK

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Director - Department of Planning and Zoning — Date 2/25/11

Chief, Division of Land Development — Date 2/25/11

Chief, Development Engineering Division — Date 2/10/11

OWNER/DEVELOPER

ANIMAL MEDICAL HOSPITAL
AT GLENWOOD
2465 MARYLAND ROUTE 97
SUITE 7
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DR. STUART N. SCHEINBERG D.V.M.
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PROJECT			SECTION/AREA	PARCEL	LOT
ANIMAL MEDICAL HOSPITAL DOG KENNEL AND PET GROOMING ESTABLISHMENT			N/A	P/O 217	5
PLAT REF.	BLOCK NO.	ZONE	TAX MAP	ELEC. DIST.	CENSUS TR.
19072	11	RR-DEO	14	FOURTH	6040.02
WATER CODE N/A			SEWER CODE N/A		

DRAINAGE AREA MAP, SOILS MAP & HANDICAP PARKING/ACCESS PLAN

ANIMAL MEDICAL HOSPITAL AT GLENWOOD

GREEN MEADOWS
LOT 5

TAX MAP No.: 14 GRID No.: 11
PLAT NO. 19072 P/O PARCEL No.: 217
FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: JANUARY 26, 2011

SHEET 5 OF 19 SDP-08-004

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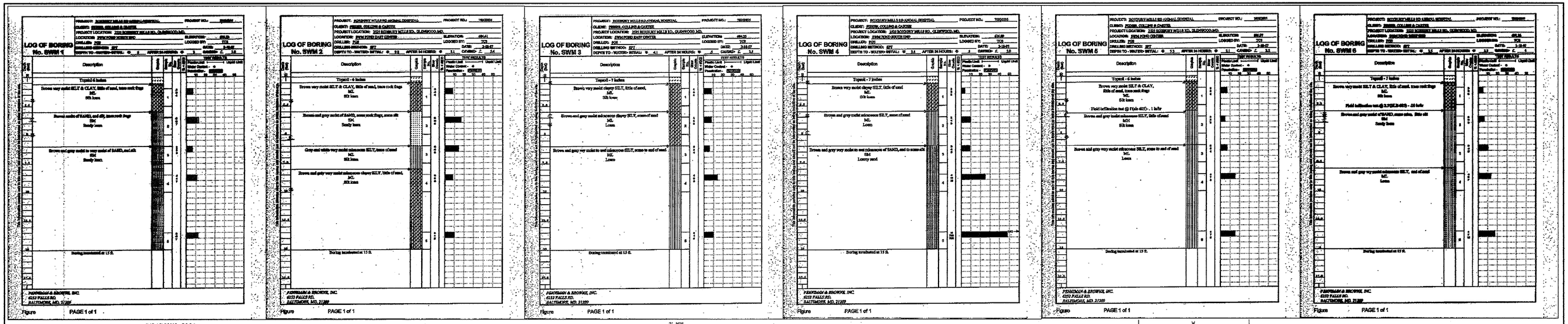

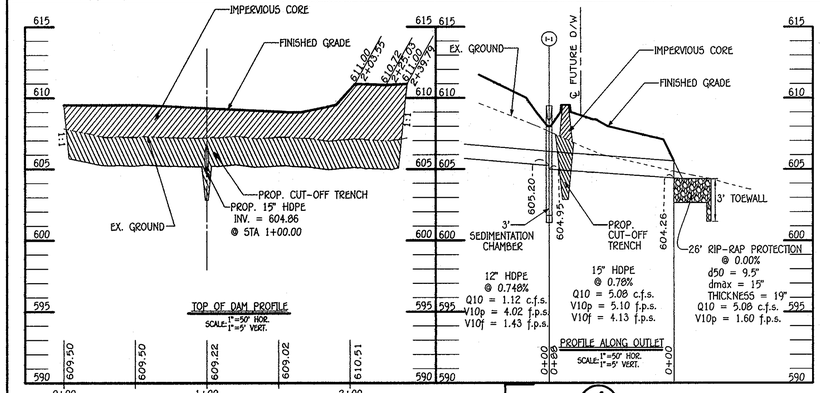

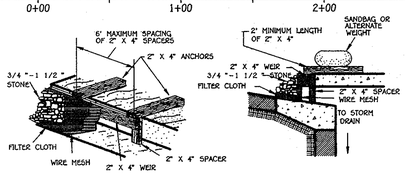

Construction Specifications

1. Attach a continuous piece of wire mesh (30" minimum width by throat length plus 4") to the 2" x 4" weir (measuring throat length plus 2") as shown on the standard drawing.
2. Place a continuous piece of Geotextile Class E the same dimensions as the wire mesh over the wire mesh and securely attach it to the 2" x 4" weir.
3. Securely nail the 2" X 4" weir to a 9" long vertical spacer to be located between the weir and the inlet face (max. 4' apart).
4. Place the assembly against the inlet throat and nail (minimum 2' lengths of 2" x 4" to the top of the weir at spacer locations). These 2" x 4" anchors shall extend across the inlet top and be held in place by sandbags or alternate weight.
5. The assembly shall be placed so that the end spacers are a minimum 1" beyond both ends of the throat opening.
6. Form the 1/2" x 1/2" wire mesh and the geotextile fabric to the concrete gutter and against the face of the curb on both sides of the inlet. Place clean 3/4" x 1 1/2" stone over the wire mesh and geotextile in such a manner to prevent water from entering the inlet under or around the geotextile.
7. This type of protection must be inspected frequently and the filter cloth and stone replaced when clogged with sediment.
8. Assure that storm flow does not bypass the inlet by installing a temporary earth or asphalt dike to direct the flow to the inlet.

CURB INLET PROTECTION (COG OR COS INLETS)

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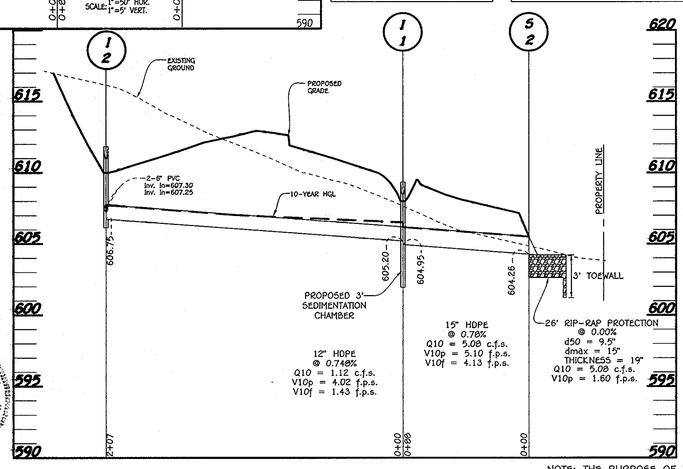
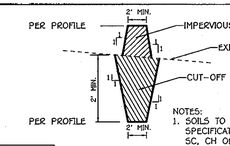


PROFILE

SCALE: HORIZ. : 1" = 50'
VERT. : 1" = 5'



NOTES:
1. SOILS TO BE COMPACTED TO MD 378 SPECIFICATIONS(95%) AND SHALL BE GC, SC, CH OR CL SOILS AS PER THE UNIFIED SOILS CLASSIFICATION SYSTEM.

CUT-OFF TRENCH & IMPERVIOUS CORE DETAIL
NOT TO SCALE

CORE TRENCH NOTE:
IF UNSUITABLE (PERVIOUS) MATERIAL IS ENCOUNTERED GREATER THAN 2 FT. THE CUT-OFF TRENCH SHALL BE EXTENDED UNTIL SUITABLE MATERIAL IS ENCOUNTERED AS DETERMINED BY A GEO-TECHNICAL ENGINEER. CUT-OFF TRENCH FILL MATERIAL SHALL CONFORM TO THE UNIFIED SOIL CLASSIFICATION GC, SC, CH OR CL. OTHER SOILS TYPES MAY BE USED IF APPROVED BY THE GEO-TECHNICAL ENGINEER AND CONSTRUCTION IS SUPERVISED BY THE GEO-TECHNICAL ENGINEER.

PIPE SCHEDULE

SIZE	CLASS	LENGTH
6"	PVC, SCH 40	549 L.F.
12"	HDPE	207 L.F.
15"	HDPE	88 L.F.
18"	HDPE	94 L.F.
8"x12"	CMP	21 L.F.
6"	PERF PVC SCH 40	66 L.F.

STRUCTURE SCHEDULE

STRUCTURE NO.	TOP ELEVATION	INV.IN	INV.OUT	COORDINATES	WIDTH	TYPE	REMARKS
I-1	610.13	605.20(12")	604.95 (15")	595,387.52 1,306,988.12	4.0'	'D' Inlet	S.D. - 4.11
I-2	611.83	607.30 (6"),607.25 (6")	606.75 (12")	595,401.70 1,306,701.46	4.0'	'D' Inlet	S.D. - 4.11
S-1	-	-	605.70 (18")	595,588.55 1,306,989.27	-	18" END SECTION	** SEE ADS INFO BELOW
S-2	-	-	604.26 (15")	595,398.60 1,306,995.48	-	15" END SECTION	** SEE ADS INFO BELOW
S-3	-	-	607.48 (8"x12")	595,645.98 1,306,970.86	-	8"x12" END SECTION	
EW-1	610.39	-	606.82 (18")	595,599.67 1,306,894.14	-	TYPE 'C' HEADWALL	S.D. - 5.21

** CONTACT ADS DRAINAGE SYSTEMS
LONDON, OHIO
1-800-733-9554

PROFILE

SCALE: HORIZ. : 1" = 50'
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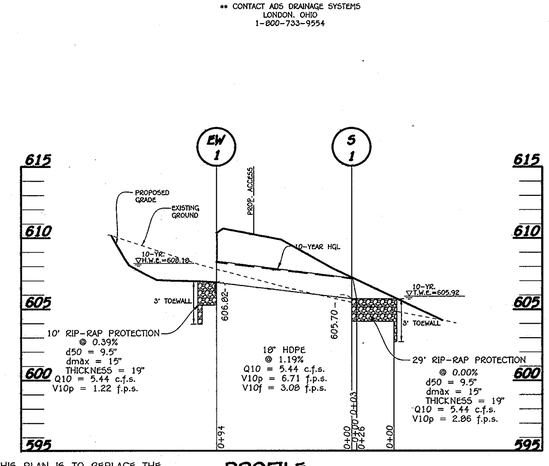
NOTE: THE PURPOSE OF THIS PLAN IS TO REPLACE THE SWM POND WITH THE NEW CHAPTER 5 STANDARDS AND REGULATIONS, ENLARGE THE KENNEL/GROOMING BUILDING BY 20' IN LENGTH AND LABEL THE ANIMAL MEDICAL HOSPITAL AS FUTURE.



PROFILE

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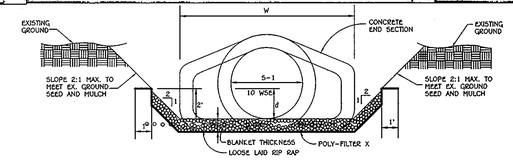
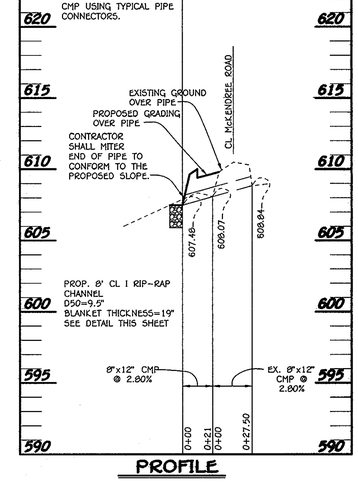


RIP RAP CHANNEL DETAIL

NO SCALE

RIP-RAP CHANNEL DESIGN DATA

STRUCTURE	AREA	WETTED PERIMETER	R	R 2/3	S	S 1/2	W	d	N	V (f.p.s.)	Q (c.f.s.)	RIP-RAP SIZE d_{50}	RIP-RAP SIZE D_{MAX}	BLANKET THICKNESS
S-1	3.91	9.97	0.3922	0.5341	0.005	0.0707	26'	0.44'	0.04	1.41	5.44	9.5"	15"	19"
S-2	3.18	6.73	0.4725	0.6051	0.005	0.0707	26'	0.61'	0.04	1.60	5.08	9.5"	15"	19"
S-3							8'	1.58'				9.5"	15"	19"
EW-1	4.55	11.80	0.0566	0.1461	0.0039	0.0624	10'	0.42'	0.04	1.22	5.44	9.5"	15"	19"



PROFILE

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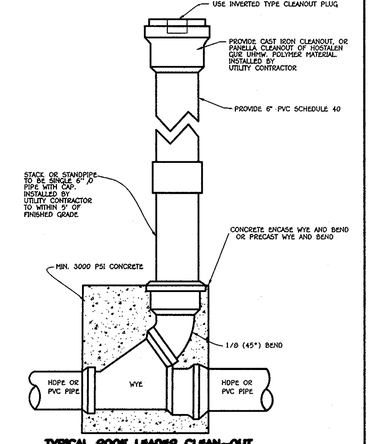
CONSTRUCTION SPECIFICATIONS FOR RIP-RAP OUTFALLS

1. The subgrade for the filter, riprap or gabion shall be prepared to the required lines and grades. Any fill required in the subgrade shall be compacted to a density of approximately that of the surrounding undisturbed material.
2. The rock or gravel shall conform to the specified grading limits when installed respectively in the riprap or filter.
3. Filter cloth shall be protected from punching, cutting or tearing. Any damage other than an occasional shall hole shall be repaired by placing another piece of cloth over the damaged part or by completely replacing the cloth. All overlaps whether for repairs or for joining two pieces of cloth shall be a minimum of one foot.
4. Stone for the riprap or gabion outlets may be placed by equipment. Both shall each be constructed to the full course thickness in one operation and in such a manner as to avoid displacement of underlying materials. The stone for riprap or gabion outlets shall be delivered and placed in a manner that will insure that it is reasonably homogenous with the smaller stones and spalls filling the voids between the larger stones. Riprap shall be placed in a manner to prevent damage to the filter blanket or filter cloth. Hand placement will be required to the extent necessary to prevent damage to the permanent works.



TYPICAL ROOF LEADER CLEAN-OUT

NO SCALE

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWAGE SYSTEMS
HOWARD COUNTY HEALTH DEPARTMENT

for Peter Beilenson — 2/22/2011
COUNTY HEALTH OFFICER — DATE

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
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Signature of Developer — Date 1/28/11

DR. STUART N. SCHEINBERG
Printed Name Of Developer

These plans have been reviewed For The Howard Soil Conservation District and meet the technical requirements.

USDA-Natural Resources Conservation Service — Date

ENGINEER'S CERTIFICATE

"I certify that this plan for sediment and erosion control represents a practical and workable plan based on my personal knowledge of the knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District."

Signature of Engineer — Date 1/27/11

CHARLES J. CARO SR.
Printed Name Of Engineer

This development plan is approved for soil erosion and sediment control by the Howard Soil Conservation District.

Howard Soil Conservation District — Date 2/9/11

DATE	DESCRIPTION
	REVISION BLOCK

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Director - Department of Planning and Zoning — Date 2/25/11
Chief, Division of Land Development — Date 2/25/11
Chief, Development Engineering Division — Date 2/10/11

OWNER/DEVELOPER

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Address Chart

BUILDING NO.	STREET ADDRESS
1. HOSPITAL	2890 McKENDREE ROAD
2. KENNEL	2892 McKENDREE ROAD

PROJECT			SECTION/AREA	PARCEL	LOT
ANIMAL MEDICAL HOSPITAL DOG KENNEL AND PET GROOMING ESTABLISHMENT			N/A	P/O 217	5
PLAT REF.	BLOCK NO.	ZONE	TAX MAP	ELEC. DIST.	CENSUS TR.
19072	11	RR-DEO	14	FOURTH	6040.02
WATER CODE N/A			SEWER CODE N/A		

STORM DRAIN PROFILES, STRUCTURE SCHEDULE AND BORING LOGS "REVISED SITE DEVELOPMENT PLAN" ANIMAL MEDICAL HOSPITAL AT GLENWOOD

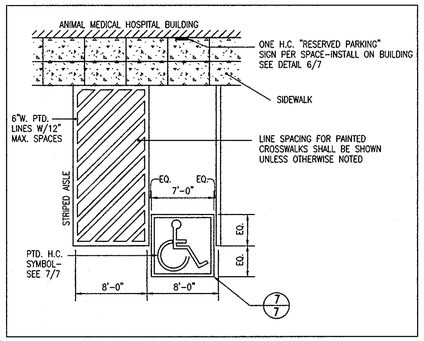
GREEN MEADOWS
LOT 5

TAX MAP No.: 14 GRID No.: 11
PLAT NO. 19072 P/O PARCEL No.: 217
FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: JANUARY 26, 2011

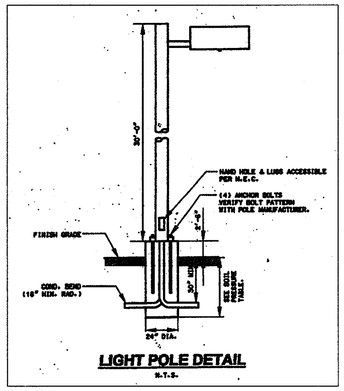
SHEET 6 OF 19

SDP-08-004

I:\2005\05090\dwg\05090 REPLACEMENT SHEET FOR PROFILES (SHEET 6).dwg, 1/26/2011 9:58:12 AM, 36Nplar.pc3



ACCESSIBLE SPACE LAYOUT



LIGHT POLE DETAIL

N.T.S.

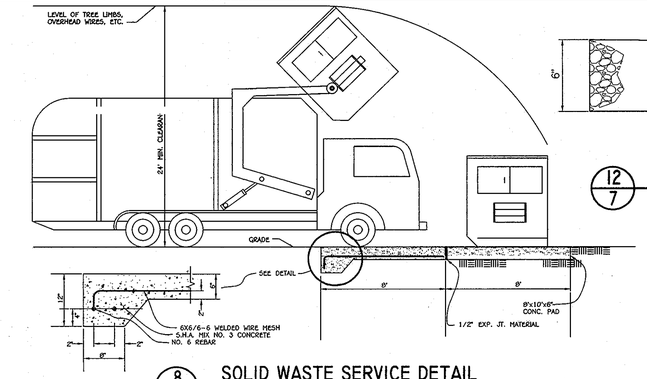
LIGHTING FIXTURE SCHEDULE						
TYPE	QTY.	DESCRIPTION	COORDINATES		LAMP	SHIELDING
B1/7	1	POLE MOUNTED FIXTURE MOUNTED ON 30'-0" POLE WITH 12' ARM.	N 595654.78	E 1306883.33	250 WATT METAL HALIDE (40,000) LUMENS	FULL CUTOFF TYPE IV SC DISTRIBUTION
B2/7	2	POLE MOUNTED FIXTURE MOUNTED ON 30'-0" POLE.	N 595552.10	E 1306862.36	250 WATT METAL HALIDE (40,000) LUMENS	FULL CUTOFF TYPE III DISTRIBUTION
			N 595296.50	E 1306872.24		

6/7 HANDICAP PARKING SIGN DETAIL

NOT TO SCALE

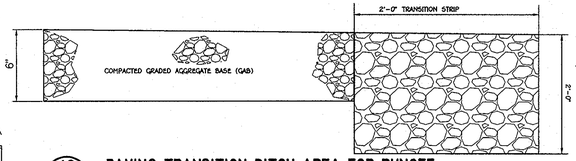
GENERAL NOTES:

1. SIGNS SHALL MEET DESIGN STANDARDS OF THE FEDERAL HIGHWAY ADMINISTRATION AND CONFORM TO THE STATE OF MARYLAND STANDARD HIGHWAY SIGN BOOKLET DETAIL R7-8.
2. ONE SIGN IS REQUIRED PER SPACE PLACED AS SHOWN ON SITE DEVELOPMENT PLAN.
3. SIGNS SHALL BE ATTACHED TO THE BUILDING.
4. COLORS: LEGEND AND BORDER-GREEN
   SYMBOL-WHITE ON BLUE BACKGROUND
   BACKGROUND-WHITE
5. CONTRACTOR SHALL COORDINATE ARROW DIRECTION WITH LOCATION OF ADJACENT AISLE.



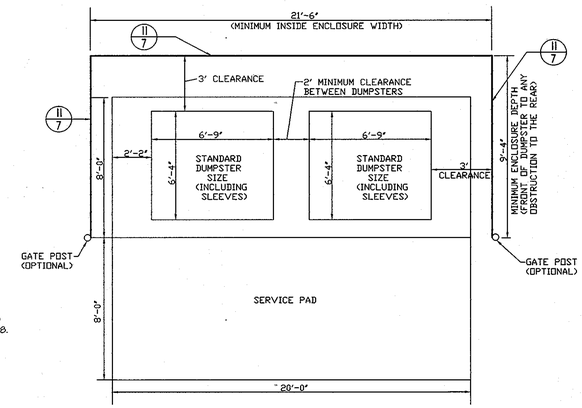
8/7 SOLID WASTE SERVICE DETAIL

NOT TO SCALE



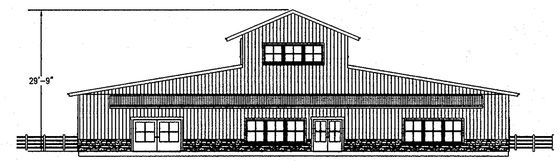
12/7 PAVING TRANSITION DITCH AREA FOR RUNOFF

NOT TO SCALE



9/7 SOLID WASTE OPTIONAL CONTAINER ENCLOSURE

NOT TO SCALE



ANIMAL MEDICAL HOSPITAL BUILDING

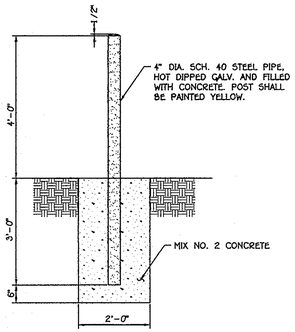
FRONT ELEVATION
NO SCALE

KENNEL/GROOMING BUILDING

FRONT ELEVATION
NO SCALE

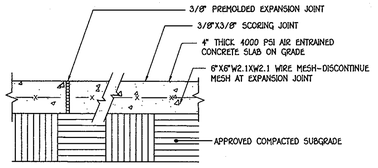
NOTE: THE PURPOSE OF THIS PLAN IS TO REPLACE THE SWM POND WITH THE NEW CHAPTER 5 STANDARDS AND REGULATIONS, ENLARGE THE KENNEL/GROOMING BUILDING BY 20' IN LENGTH AND LABEL THE ANIMAL MEDICAL HOSPITAL AS FUTURE.

"Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 13204, Expiration Date: November 3, 2012."



4/7 TYPICAL METAL BOLLARD DETAIL G-7.42

NO SCALE

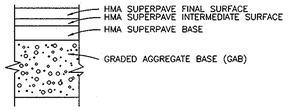


NOTE: INSTALL EXPANSION JOINTS AT MAX. 15'-0" O.C. AND INSTALL SCORING JOINTS AT MAX. 5'-0" O.C.

SLOPE ACROSS SIDEWALK SHALL BE MIN. 1/8"/FT.

3/7 CONCRETE WALK DETAIL R-3.05

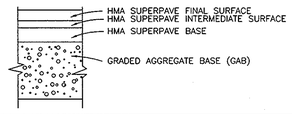
HOWARD COUNTY DETAIL NOTED IS FOR REFERENCE ONLY
SCALE: 1 1/2"=1'-0"



CALIFORNIA BEARING RATIO (CBR)	3 TO <5	5 TO <7	>7	3 TO <5	5 TO <7	>7
PAVEMENT MATERIAL (INCHES)	MIN HMA WITH GAB			HMA WITH CONSTANT GAB		
HMA SUPERPAVE FINAL SURFACE PG 64-22, LEVEL 1 (ESAL)	1.5	1.5	1.5	1.5	1.5	1.5
HMA SUPERPAVE INTERMEDIATE SURFACE PG 64-22, LEVEL 1 (ESAL)	1.0	1.0	1.0	1.0	1.0	1.0
HMA SUPERPAVE BASE PG 64-22, LEVEL 1 (ESAL)	2.0	2.0	2.0	3.5	2.0	2.0
GRADED AGGREGATE BASE (GAB)	8.0	4.0	3.0	4.0	4.0	4.0

1/7 PAVING SECTION P-2 R-2.01

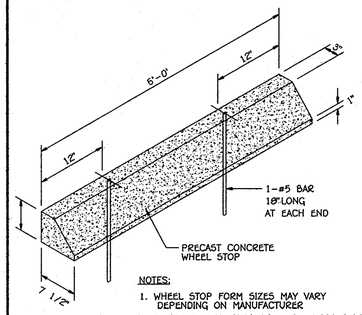
NO SCALE



CALIFORNIA BEARING RATIO (CBR)	3 TO <5	5 TO <7	>7	3 TO <5	5 TO <7	>7
PAVEMENT MATERIAL (INCHES)	MIN HMA WITH GAB			HMA WITH CONSTANT GAB		
HMA SUPERPAVE FINAL SURFACE MM, PG 64-22, LEVEL 1 (ESAL)	1.5	1.5	1.5	1.5	1.5	1.5
HMA SUPERPAVE INTERMEDIATE SURFACE PG 64-22, LEVEL 1 (ESAL)	1.0	1.0	1.0	1.0	1.0	1.0
HMA SUPERPAVE BASE PG 64-22, LEVEL 1 (ESAL)	3.0	3.0	3.0	4.5	3.0	2.0
GRADED AGGREGATE BASE (GAB)	10.0	6.0	3.0	6.0	6.0	6.0

5/7 PAVING SECTION P-3 R-2.01

NO SCALE

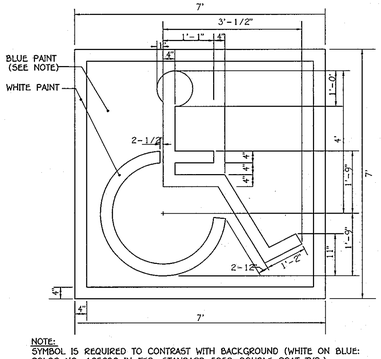


NOTES:

1. WHEEL STOP FORM SIZES MAY VARY DEPENDING ON MANUFACTURER
2. CONCRETE STRENGTH SHALL BE 4,000 P.S.I. AIR ENTRAINED

2/7 WHEEL STOP DETAIL

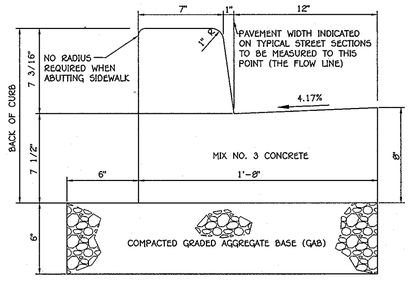
NO SCALE



NOTE:
SYMBOL IS REQUIRED TO CONTRAST WITH BACKGROUND (WHITE ON BLUE: COLOR NO. 105090 IN FED. STANDARD 595a-DOUBLE COAT TYP.)

7/7 HANDICAP SPACE STENCIL LAYOUT

SCALE: 1" = 20'



10/7 7" COMBINATION CURB AND GUTTER DETAIL R-3.01

NOT TO SCALE

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWAGE SYSTEMS
HOWARD COUNTY HEALTH DEPARTMENT

B Nylen for Peter Beilenson 2/22/2011
COUNTY HEALTH OFFICER DATE

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

DATE	DESCRIPTION
	REVISION BLOCK

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Director - Department of Planning and Zoning — Date 2/25/11

Chief, Division of Land Development — Date 2/25/11

Chief, Development Engineering Division NY — Date 2/10/11

OWNER/DEVELOPER
ANIMAL MEDICAL HOSPITAL
AT GLENWOOD
2465 MARYLAND ROUTE 97
SUITE 7
GLENWOOD, MARYLAND 21738
DR. STUART N. SCHEINBERG D.V.M.
(410) 489-9677

Address Chart

BUILDING NO.	STREET ADDRESS
1. HOSPITAL	2890 McKENDREE ROAD
2. KENNEL	2892 McKENDREE ROAD

PROJECT			SECTION/AREA	PARCEL	LOT
ANIMAL MEDICAL HOSPITAL DOG KENNEL AND PET GROOMING ESTABLISHMENT			N/A	P/O 217	5
PLAT REF.	BLOCK NO.	ZONE	TAX MAP	ELEC. DIST.	CENSUS TR.
19072	11	RR-DEO	14	FOURTH	6040.02
WATER CODE N/A			SEWER CODE N/A		

DETAILS & SCHEMATIC BUILDING PROFILES

"REVISED SITE DEVELOPMENT PLAN"
ANIMAL MEDICAL HOSPITAL
AT GLENWOOD
GREEN MEADOWS
LOT 5

TAX MAP No.: 14 GRID No.: 11
PLAT NO. 19072 P/O PARCEL No.: 217
FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: JANUARY 26, 2011

SHEET 7 OF 19 SDP-08-004

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20.0 STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION

DEFINITION

Using vegetation as cover for barren soil to protect it from forces that cause erosion.

PURPOSE

Vegetative stabilization specifications are used to promote the establishment of vegetation on exposed soil. When soil is stabilized with vegetation, the soil is less likely to erode and more likely to allow infiltration of rainfall, thereby reducing sediment loads and run-off to downstream areas, and improving wildlife habitat and visual resources.

CONDITIONS WHERE PRACTICE APPLIES

This practice shall be used on denuded areas as specified on the plans and may be used on highly erodible or critically eroding areas. This specification is divided into Temporary Seeding, to quickly establish vegetative cover for short duration O(up to one year), and Permanent Seeding, for long term vegetative cover. Examples of applicable areas for Temporary Seeding are temporary Soil Stockpiles, cleared areas being left idle between construction phases, earth dikes, etc. and for Permanent Seeding are lawns, dams, cut and fill slopes and other areas at final grade, former stockpile and staging areas, etc.

EFFECTS ON WATER QUALITY AND QUANTITY

Planting vegetation in disturbed areas will have an effect on the water budget, especially on volumes and rates of runoff, infiltration evaporation, transpiration, percolation, and groundwater recharge. Vegetation, over time, will increase organic matter content and improve the water holding capacity of the soil and subsequent plant growth.
Vegetation will help reduce the movement of sediment, nutrients, and other chemicals carried by runoff to receiving waters. Plants will also help protect groundwater supplies by assimilating those substances present within the root zone.
Sediment control devices must remain in place during grading, seedbed preparation, seeding, mulching and vegetative establishment to prevent large quantities of sediment and associated chemicals and nutrients from washing into surface waters.

SECTION 1 – VEGETATIVE STABILIZATION METHODS AND MATERIALS

A. Site Preparation
   i. Install erosion and sediment control structures (either temporary of permanent) such as diversions, grade stabilization structures, berms, waterways, or sediment control basins.
   ii. Perform all grading operations at right angles to the slope. Final grading and shaping is not usually necessary for temporary seeding.
   iii. Schedule required soil tests to determine soil amendment composition and application rates for sites having disturbed area over 5 acres.
B. Soil Amendments (Fertilizer and Lime Specifications)
   i. Soil tests must be performed to determine the exact ratios and application rates for both lime and fertilizer on sites having disturbed areas over 5 acres. Soil analysis may be performed by the University of Maryland or a recognized commercial laboratory. Soil samples taken for engineering purposes may also be used for chemical analyses.
   ii. Fertilizers shall be uniform in composition, free flowing and suitable for accurate application by approved equipment. Manure may be substituted for fertilizer with prior approval from the appropriate approval authority. Fertilizers shall all be delivered to the site fully labeled according to the applicable state fertilizer laws and shall bear the name, trade name or trademark and warrantee of the producer.
   iii. Lime materials shall be ground limestone (hydrated or burnt lime may be substituted) which contains at least 50% total oxides (calcium oxide plus magnesium oxide). Limestone shall be ground to such fineness that at least 50% will pass through a #100 mesh sieve and 98–100% will pass through a #20 mesh sieve.
   iv. Incorporate lime and fertilizer into the top 3–5" of soil by disking or other suitable means.
C. Seedbed Preparation
   i. Temporary Seeding
      a. Seedbed preparation shall consist of loosening soil to a depth of 3" to 5" by means of suitable agricultural or construction equipment, such as disc harrows or chisel plows or rippers mounted on construction equipment. After the soil is loosened it should not be rolled or dragged smooth, but left in the roughened condition. Sloped areas (greater than 3:1) should be tracked leaving the surface in an irregular condition with ridges running parallel to the contour of the slope.
      b. Apply fertilizer and lime as prescribed on the plans.
      c. In corporate lime and fertilizer into the top 3–5" of soil by disking or other suitable means.
   ii. Permanent Seeding
      a. Minimum soil conditions required for permanent vegetative establishment:
         1. Soil pH shall be between 6.0 and 7.0.
         2. Soluble salts shall be less than 500 parts per million (ppm).
         3. The soil shall contain less than 40% clay, but enough fine grained material (>30% silt plus clay) to provide the capacity to hold a moderate amount of moisture. An exception is if lovegrass or serecia lespedezas is to be planted, then a sandy soil (<30% silt plus clay) would be acceptable.
         4. Soil shall contain 1.5% minimum organic matter by weight.
         5. Soil must contain sufficient pore space to permit adequate root penetration.
         6. If these conditions cannot be met by soils on site, adding topsoil is required in accordance with Section 21 Standard and Specification for Topsoil.
      b. Areas previously graded in conformance with the drawings shall be maintained in a true and even grade, then scarified or otherwise loosened to a depth of 3–5" to permit bonding of the topsoil to the surface area and to create horizontal erosion check slots to prevent topsoil to the surface area and to create horizontal erosion check slots to prevent topsoil from sliding down a slope.
      c. Apply soil amendments as per soil test or as included on the plans.
      d. Mix soil amendments into the top 3–5" of topsoil by disking or other suitable means. Lawn areas should be raked to smooth the surface, remove large objects like stones and branches, and ready the area for seed and application. Where site conditions will not permit normal seedbed preparation, loosen surface soil by dragging with a heavy chain or other equipment to roughen the surface. Steep slopes (steeper than 3:1) should be tracked by a dozer leaving the soil in an irregular condition with ridges running parallel to the contour of the slope. The top 1–3" of soil should be loose and friable. Seedbed loosening may not be necessary on newly disturbed areas.
D. Seed Specifications
   i. All seed must meet the requirements of the Maryland State Seed Law. All seed shall be subject to re-testing by a recognized seed laboratory. All seed used shall have been tested within the 6 months immediately preceding the date of sowing such material on this job.
   Note: Seed tags shall be made available to the inspector to verify type and rate of seed used.
   ii. Inoculant – The inoculant for treating legume seed in the seed mixtures shall be a pure culture of nitrogen-fixing bacteria prepared specifically for the species. Inoculants shall not be used later than the date indicated on the container. Add fresh inoculant as directed on package. Use four times the recommended rate when hydroseeding. Note: It is very important to keep inoculant as cool as possible until used. Temperatures above 75°–80° F. can weaken bacteria and make the inoculant less effective.
E. Methods of Seeding
   i. Hydroseeding: Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer), broadcast or drop seeded, or a cultipacker seeder.
      a. If fertilizer is being applied at the time of seeding, the application rates amounts will not exceed the following: nitrogen; maximum of 100 lbs. per acre total of soluble nitrogen; P205 (phosphorous); 200 lbs/ac; K20 (potassium): 200 lbs/ac.
      b. Lime – use only ground agricultural limestone, (Up to 3 tons per acre may be applied by hydroseeding). Normally, not more than 2 tons are applied by hydroseeding at any one time. Do not use burnt or hydrated lime when hydroseeding.
      c. Seed and fertilizer shall be mixed on site and seeding shall be done immediately and without interruption.
   ii. Dry Seeding: This includes use of conventional drop or broadcast spreaders.
      a. Seed spread dry shall be incorporated into the subsoil at the rates prescribed on the Temporary or Permanent Seeding Summaries or Tables 265 or 26. The seeded area shall then be rolled with a weighted roller to provide good seed to soil contact.
      b. Where practical, seed should be applied in two directions perpendicular to each other. Apply half the seeding rate in each direction.
   iii. Drill or Cultipacker Seeding: Mechanized seeders that apply and cover seed with soil.
      a. Cultipacking seeders are required to bury the seed in such a fashion as to provide at least 1/4 inch of soil covering. Seedbed must be firm after planting.
      b. Where practical, seed should be applied in two directions perpendicular to each other. Apply half the seeding rate in each direction.
F. Mulch Specifications (In order of preference)
   i. Straw shall consist of thoroughly threshed wheat, rye or oat straw, reasonable bright in color, and shall not be musty, moldy, caked, decayed, or excessively dusty and shall be free of noxious weed seeds as specified in the Maryland Seed Law.
   ii. Wood Cellulose Fiber Mulch (WCFM)
      a. WCFM shall consist of specially prepared wood cellulose processed into a uniform fibrous physical state.
      b. WCFM shall be dyed green or contain a green dye in the package that will provide an appropriate color to facilitate visual inspection of the uniformly spread slurry.
      c. WCFM, including dye, shall contain no germination or growth inhibiting factors.
      d. WCFM materials shall be manufactured and processed in such a manner that the wood cellulose fiber mulch will remain in uniform suspension in water under agitation and will blend with seed, fertilizer and other additives to form a homogeneous slurry. The mulch material shall form a blotter-like ground cover, on application, having moisture absorption and percolation properties and shall cover and hold grass seed in contact with the soil without inhibiting the growth of the grass seedlings.
      e. WCFM material shall contain no elements or compounds at concentration levels that will be phytol-toxic.
      f. WCFM must conform to the following physical requirements: fiber length to approximately 10 mm., diameter approximately 1 mm., pH range of 4.0 to 8.5, ash content of 1.6% maximum and water holding capacity of 90% minimum.
   Note: Only sterile straw mulch should be used in areas where one species of grass is desired.
G. Mulching Seeded Areas – Mulch shall be applied to all seeded areas immediately after seeding.
   i. If grading is completed outside of the seeding season, mulch along shall be applied as prescribed in this section and maintained until the seeding season returns and seeding can be performed in accordance with these specifications.
   ii. When straw mulch is used, it shall be spread over all seeded areas at the rate of 2 tons/acre. Mulch shall be applied to a uniform loose depth of between 1" and 2". Mulch applied shall achieve a uniform distribution and depth so that the soil surface is not exposed. If a mulch anchoring tool is to be used, the rate should be increased to 2.5 tons/acre.
   iii. Wood cellulose fiber used as a mulch shall be applied at a net dry weight of 1,500 lbs. per acre. The wood cellulose fiber shall be mixed with water, and the mixture shall contain a maximum of 50 lbs. of wood cellulose fiber per 100 gallons of water.
H. Securing Straw Mulch (Mulch Anchoring): Mulch anchoring shall be performed immediately following mulch application to minimize loss by wind or water. This may be done by one of the following methods (listed by preference), depending upon size of area and erosion hazard:
   i. A mulch anchoring tool is a tractor drawn implement designed to punch and anchor mulch into the soil surface a minimum of two (2) inches. This practice is most effective on large areas, but is limited to flatter slopes where equipment can operate safely. If used on sloping land, this practice should be used on the contour if possible.
   ii. Wood cellulose fiber may be used for anchoring straw. The fiber binder shall be applied at a net dry weight of 750 pounds/acre. The wood cellulose fiber shall be mixed with water and the mixture shall contain a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.
   iii. Application of liquid binders should be heavier at the edges where wind catches mulch, such as in valleys and crest of banks. The remainder of area should be appear uniform after binder application. Synthetic binders – such as Acrylic DLR (Agro-Tack), DCA-70 Petroset, Terra Tax II, Terra Tack AR or other approved equal may be used at rates recommended by the manufacturer to anchor mulch.
   iv. Lightweight plastic netting may be stapled over the mulch according to manufacturer's recommendations. Netting is usually available in rolls 4' to 15' feet wide and 300 to 3,000 feet long.

I Incremental Stabilization – Cut Slopes
   i. All cuts slopes shall be dressed, prepared, seeded and mulched as the work progresses. Slopes shall be excavated and stabilized in equal increments not to exceed 15'.
   ii. Construction sequence (Refer to Figure 3 below):
      a. Excavate and stabilize all temporary swales, side ditches, or berms that will be used to convey runoff from the excavation.
      b. Perform Phase 1 excavation, dress, and stabilize.
      c. Perform Phase 2 excavation, dress and stabilize. Overseed Phase 1 areas as necessary.
      d. Perform final phase excavation, dress and stabilize. Overseed previously seeded areas as necessary.
Note: Once excavation has begun the operation should be continuous from grubbing through the completion of grading and placement of topsoil (if required) and permanent seed and mulch. Any interruptions int he operation of completing the operation out of the seeding season will necessitate the application of temporary stabilization.
J. Incremental Stabilization of Embankments – Fill Slopes
   i. Embankments shall be constructed in lifts as prescribed on the plans.
   ii. Slopes shall be stabilized immediately when the vertical height of the multiple lifts reaches 15", or when the grading operation ceases as prescribed in the plans.
   iii. At the end of each day, temporary berms and pipe slope drains should be constructed along the top edge of the embankment to intercept surface runoff and convey it down the slope in a non-erosive manner to a sediment trapping device.
   iv. Construction sequence: Refer to Figure 4 (below).
      a. Excavate and stabilize all temporary swales, side ditches, or berms that will be used to divert runoff around the fill. Construct slope silt fence on low side of fill as shown in Figure 5, unless other methods shown on the plans address this area.
      b. Place Phase 1 embankment, dress and stabilize.
      c. Place Phase 2 embankment, dress and stabilize.
      d. Place final phase embankment, dress and stabilize. Overseed previously seeded areas as necessary.
Note: Once the placement of fill has begun the operation should be continuous from grubbing through the completion of grading and placement of topsoil (if required) and permanent seed and mulch. any interruptions in the operation or completing the operation out of the seeding season will necessitate the application of temporary stabilization.

SECTION 2 – TEMPORARY SEEDING

Vegetation – annual grass or grain used to provide cover on disturbed areas for up to 12 months. For longer duration of vegetative cover, Permanent Seeding is required.

A. Seed mixtures – Temporary Seeding
   i. Select one or more of the species or mixtures listed in Table 26 for the appropriate Plant Hardiness Zone (from Figure 5) and enter them in the Temporary seeding summary below, along with application rates, seeding dates and seeding depths. If this summary is not put on the plans and completed, then Table 26 must be put on the plans.
   ii. For sites having soil tests performed, the rates shown on this table shall be deleted and the rates recommended by the testing agency shall be written in. Soil tests are not required for Temporary Seeding.

Seed Mixture (Hardiness Zone 6a) From Table 26					Fertilizer Rate (10-10-10)	Lime Rate
No.	Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depths		
1	RYE	140	3/15 – 5/31, 8/1 – 10/31	1" – 2"	600 lb/ac (15 lb/1000sf)	2 tons/ac (100 lb/1000sf)
2	BARLEY OR RYE PLUS FOXTAIL MILLOT	150	6/1 – 7/31	1"		

SECTION 3 – PERMANENT SEEDING

Seeding grass and legumes to establish groung cover for a minimum of one year on disturbed areas generally receiving low maintenance.

A. Seed mixtures – Permanent Seeding
   i. Select one or more of the species or mixtures listed in Table 25 for the appropriate Plant Hardiness Zone (from Figure 5) and enter them in the Permanent Seeding Summary below, along with application rates and seeding dates. Seeding depths can be estimated using Table 26. If this summary is not put on the construction plans and completed, then Table 25 must be put on the plans. Additional planting specifications for exceptional sites such as shorelines, streambanks, or dunes or for special purposes such as wildlife or aesthetic treatment may be found in USDA-SCS Techinical Field Office Guide, Section 342 – Critical Area Planting. For special lawn maintenance areas, see Sections IV Sod and V Turfgrass.
   ii. For sites having disturbed area over 5 areas, the rates shown on this table shall be deleted and the rates recommended by the soil testing agency shall be written in.
   iii. For areas receiving low maintenance, apply ureaform fertilizer (46-0-0) at 3 1/2 lbs/1000 sq. ft. (150 lbs/ac), in addition to the above soil amendments shown in the table below, to be performed at the time of seeding.

Seed Mixture (Hardiness Zone 6a) From Table 25					Fertilizer Rate (10-20-20)			Lime Rate
No.	Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depths	N	P205	K20	
1	TALL FESCUE (85%) KENTUCKY BLUEGRASS (5%) PERENNIAL RYEGRASS (10%)	125 15 10	3/15 – 6/1, 8/1 – 10/1	1" – 2"	90 lb/ac (2.0 lb/ 1000sf)	175 lb/ac (4 lb/ 1000sf)	175 lb/ac (4 lb/ 1000sf)	2 tons/ac (100 lb/ 1000sf)
2	TALL FESCUE (80%) HARD FESCUE (20%)	120 30	3/15 – 6/1, 8/1 – 10/1	1" – 2"				

TOPSOIL SPECIFICATIONS

Definition

Placement of topsoil over a prepared subsoil prior to establishment of permanent vegetation.

Purpose

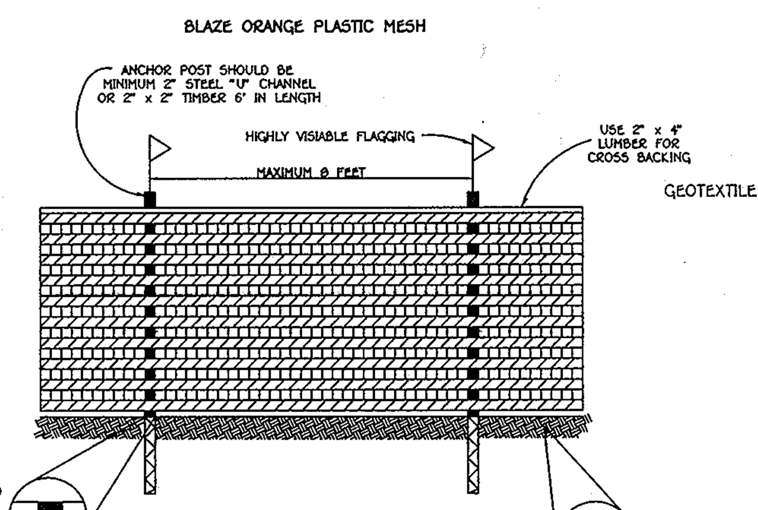
To provide a suitable soil medium for vegetative growth. Soils of concern have low moisture content, low nutrient levels, low pH, materials toxic to plants, and/or unacceptable soil gradation.

Conditions Where Practice Applies

I. This practice is limited to areas having 2:1 or flatter slopes where:
 a. The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth.
 b. The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish continuing supplies of moisture and plant growth.
 c. The original soil to be vegetated contains material toxic to plant growth.
 d. The soil is so acidic that treatment with limestone is not feasible.
II. For the purpose of these Standards and Specifications, areas having slopes steeper than 2:1 require special consideration and design for adequate stabilization. Areas having slopes steeper than 2:1 shall have the appropriate stabilization shown on the plans.

Construction and Material Specifications

I. Topsoil salvaged from the existing site may be used provided that it meets the standards as set forth in these specifications. Typically, the depth of topsoil to be salvaged for a given soil type can be found in the representative soil profile section in the Soil Survey published by USDA-SCS in cooperation with Maryland Agricultural Experimental Station.
II. Topsoil Specifications – Soil to be used as topsoil must meet the following:
 i. Topsoil shall be a loam, sandy loam, clay loam, silt loam, sandy clay loam, loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Regardless, topsoil shall not be a mixture of contrasting textured subsoils and shall contain less than 5% by volume of cinders, stones, slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 1 1/2" in diameter.
 ii. Topsoil must be free of plants or plant parts such as Bermuda grass, quackgrass, Johnsongrass, nutsedge, poison ivy, thistle, or others as specified.
 iii. Where the subsoil is either highly acidic or composed of heavy clays, ground limestone shall be spread at a rate of 4–8 tons/acre (200–400 pounds per 1,000 square feet) prior to the placement of topsoil. Lime shall be distributed uniformly over designated areas and worked into the soil in conjunction with tillage operations as described in the following procedures.
II. For sites having disturbed areas under 5 acres:
 i. Place topsoil (if required) and apply soil amendments as Stabilization – Section I – Vegetative specified in 10.0 Vegetative Stabilization Methods and Materials.
III. For sites having disturbed areas over 5 acres:
 i. On soil meeting Topsoil specifications, obtain test results dictating fertilizer and lime amendments required to bring the soil into compliance with the following:
  a. pH for topsoil shall be between 6.0 and 7.5. If the tested soil demonstrates a pH of less than 6.0, sufficient lime shall be prescribed to raise the pH to 6.5 or higher.
  b. Organic content of topsoil shall be not less than 1.5 percent by weight.
  c. Topsoil having soluble salt content greater than 500 parts per million shall not be used.
  d. No sod or seed shall be placed on soil which has been treated with soil sterilants orchemicals used for weed control until sufficient time has elapsed dissipation of phyto-toxic materials. (14 days min.) to permit
Note: Topsoil substitutes or amendments, as recommended by a qualified agronomist or soil scientist and approved by the appropriate approval authority, may be used in lieu of natural topsoil.
 ii. Place topsoil (if required) and apply soil amendments as Stabilization – Section I – Vegetative specified in 10.0 Vegetative Stabilization Methods and Materials.
V. Topsoil Application
 i. When topsoiling, maintain needed erosion and sediment control practices such as diversions, Grade Stabilization Structures, Earth Dikes, Slope Silt Fence and Sediment Traps and Basins.
 ii. Grades on the areas to be topsoiled, which have been previously established, shall be maintained, albeit 4" – 8" higher in elevation.
 iii. Topsoil shall be uniformly distributed in a 4" – 8" layer and thickness of 4". Spreading shall be lightly compacted to a minimum performed in such a manner that sodding or seeding can proceed with a minimum of additional soil preparation and tillage. any irregularities in the surface resulting from topsoiling or other operations shall be corrected in order to prevent the formation of depressions or water pockets.
 iv. Topsoil shall not be placed while the topsoil or subsoil is in a frozen or muddy condition, when the subsoil is excessively wet or in a condition that may otherwise be detrimental to proper grading and seedbed preparation.
VI. Alternative for Permanent Seeding – Instead of applying the full amounts of lime and commercial fertilizer, composted sludge and amendments may be applied as specified below:
 i. Composted Sludge Material for use as a soil conditioner for sites having disturbed areas over 5 acres shall be tested to prescribe for sites having disturbed areas under 5 acres amendments and shall conform to the following requirements.
  a. Composted sludge shall be supplied by, or originate from, a person are permitted (at the time of acquisition of the compost) or persons that by the Maryland Department of the Environment under COMAR 26.04.06.
  b. Composted sludge shall contain at least 1 percent nitrogen, 1.5 percent phosphorus, and 0.2 percent potassium and have a Ph of 7.0 to 8.0. If compost does not meet these requirements, the appropriate constituents must be added to meet the requirements prior to use.
  c. Composted sludge shall be applied at a rate of 1 ton/1,000 square feet.
 iv. Composted sludge shall be amended with a potassium fertilizer applied at the rate of 4 lb/1,000 square feet, and 1/3 the normal lime application rate.



NOTES:
1. FOREST PROTECTION DEVICE ONLY.
2. RETENTION AREA WILL BE SET AS PART OF THE REVIEW PROCESS.
3. BOUNDARIES OF RETENTION AREA SHOULD BE STAKED AND FLAGGED PRIOR TO INSTALLING DEVICE.
4. ROOT DAMAGE SHOULD BE AVOIDED.
5. PROTECTIVE SIGNAGE MAY ALSO BE USED.
6. DEVICE SHOULD BE MAINTAINED THROUGHOUT CONSTRUCTION.

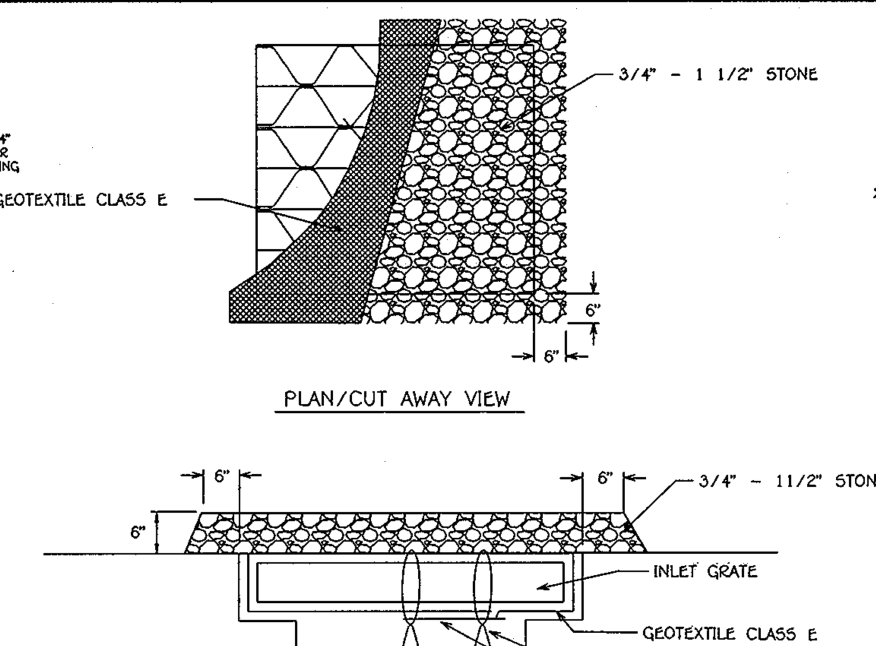
TREE PROTECTION DETAIL

NOT TO SCALE

Silt Fence Design Criteria

Slope Steepness	(Maximum) Slope Length	(Maximum) Silt Fence Length
Flatter than 50:1	unlimited	unlimited
50:1 to 10:1	125 feet	1,000 feet
10:1 to 5:1	100 feet	750 feet
5:1 to 3:1	60 feet	500 feet
3:1 to 2:1	40 feet	250 feet
2:1 and steeper	20 feet	125 feet

Note: In areas of less than 2% slope and sandy soils (USDA general classification system, soil Class A) maximum slope length and silt fence length will be unlimited. In these areas a silt fence may be the only perimeter control required.



STANDARD SYMBOL AGIP

CROSS SECTION

MAX. DRAINAGE AREA = 1/4 ACRE

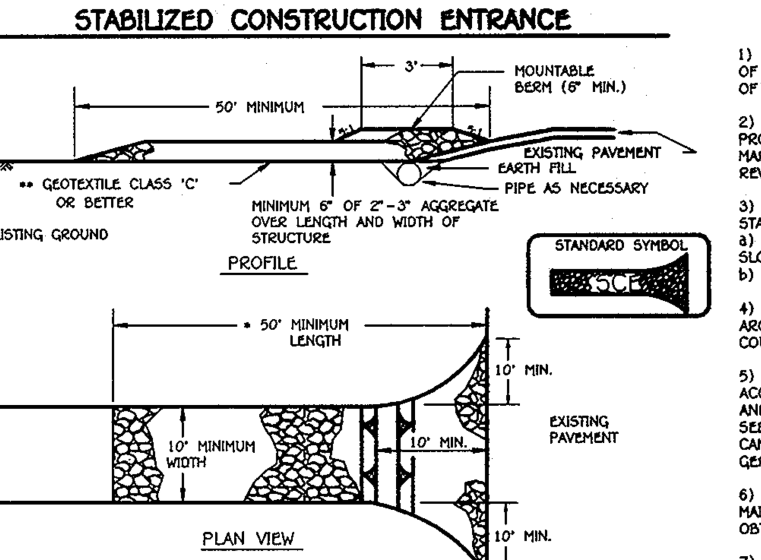
Construction Specifications

1. Lift grate and wrap with Geotextile Class E to completely cover all openings, then set grate back in place.
2. Place 3/4" to 11/2" stone, 4"–6" thick on the grate to secure the fabric and provide additional filtration.

AT GRADE INLET PROTECTION

NOTE: THE PURPOSE OF THIS PLAN IS TO REPLACE THE SWM POND WITH THE NEW CHAPTER 5 STANDARDS AND REGULATIONS, ENLARGE THE KENNEL/GROOMING BUILDING BY 20' IN LENGTH AND LABEL THE ANIMAL MEDICAL HOSPITAL AS FUTURE.

STABILIZED CONSTRUCTION ENTRANCE



Construction Specification

1. Length – minimum of 50' (*30' for single residence lot).
2. Width – 10' minimum, should be flared at the existing road to provide a turning radius.
3. Geotextile fabric (filter cloth) shall be placed over the existing ground prior to placing stone. **The plan approval authority may not require single family residences to use geotextile.
4. Stone – crushed aggregate (2" to 3") or reclaimed or recycled concrete equivalent shall be placed at least 6". deep over the length and width of the entrance.
5. Surface Water – all surface water flowing to or diverted toward construction entrances shall be piped through the entrance, maintaining positive drainage. Pipe installed through the stabilized construction entrance shall be protected with a mountable berm with 5:1 slopes and a minimum of 6" of stone over the pipe. Pipe has to be sized according to the drainage. When the SCE is located at a high spot and has no drainage to convey a pipe will not be necessary. Pipe should be sized according to the amount of runoff to be conveyed. A 6" minimum will be required.
6. Location – A stabilized construction entrance shall be located at every point where construction traffic enters or leaves a construction site. Vehicles leaving the site must travel over the entire length of the stabilized construction entrance.

SEDIMENT CONTROL NOTES

1) A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LISCENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION (313-1855).

2) ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE MOST CURRENT MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL AND REVISIONS THERETO.

3) FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN:
a) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES STEEPER THAN 3:1,
b) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.

4) ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 12, OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.

5) ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDING (SEC. 51), SOD (SEC. 54), TEMPORARY SEEDING (SEC. 50), AND MULCHING (SEC. 52). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.

6) ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.

7) SITE ANALYSIS:

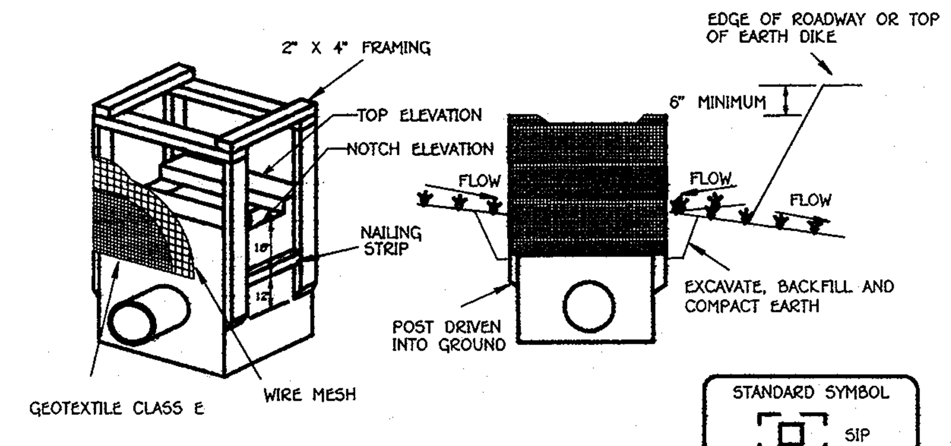
TOTAL AREA OF SITE	5.00 ACRES
AREA DISTURBED	3.59 ACRES
AREA TO BE ROOFED OR PAVED	1.56 ACRES
AREA TO BE VEGETATIVELY STABILIZED	2.03 ACRES
TOTAL CUT	3000 CU.YDS.
TOTAL FILL	3000 CU.YDS.
ONSITE BORROW AREA LOCATION	N/A CU.YDS.

8) ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.

9) ADDITIONAL SEDIMENT CONTROLS MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.

10) ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.

11) TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.



STANDARD SYMBOL SIP

MAX. DRAINAGE AREA = 1/4 ACRE

Construction Specifications

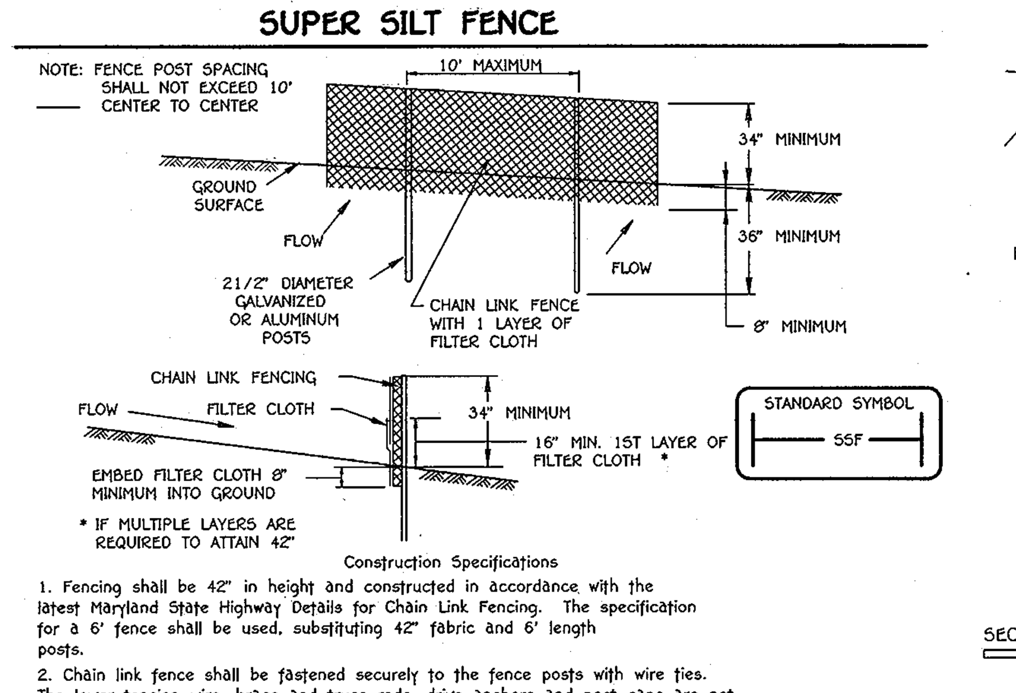
1. Excavate completely around the inlet to a depth of 18" below the notch elevation.
2. Drive the 2" x 4" construction grade lumber posts 1' into the ground at each corner of the inlet. Place nail strips between the posts on the ends of the inlet. Assemble the top portion of the 2" x 4" frame using the overlap joint shown on Detail 23A. The top of the frame (weir) must be 6" below adjacent roadways where flooding and safety issues may arise.
3. Stretch the 1/2" x 1/2" wire mesh tightly around the frame and fasten securely. The ends must meet and overlap at a post.
4. Stretch the Geotextile Class E tightly over the wire mesh with the geotixtile extending from the top of the frame to 18" below the inlet notch elevation. Fasten the geotextile firmly to the frame. The ends of the geotextile must meet at a post, be overlapped and folded, then fastened down.
5. Backfill around the inlet in compacted 6" layers until the layer of earth is level with the notch elevation on the ends and top elevation on the sides.
6. If the inlet is not in a sump, construct a compacted earth dike across the ditch line directly below it. The top of the earth dike should be at least 6" higher than the top of the frame.
7. The structure must be inspected periodically and after each rain and the geotextile replaced when it becomes clogged.

STANDARD INLET PROTECTION

STATE OF MARYLAND CHARLES J. CROVO PROFESSIONAL ENGINEER

"Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 13204, Expiration Date: November 3, 2008."

SUPER SILT FENCE



STANDARD SYMBOL SSF

Construction Specifications

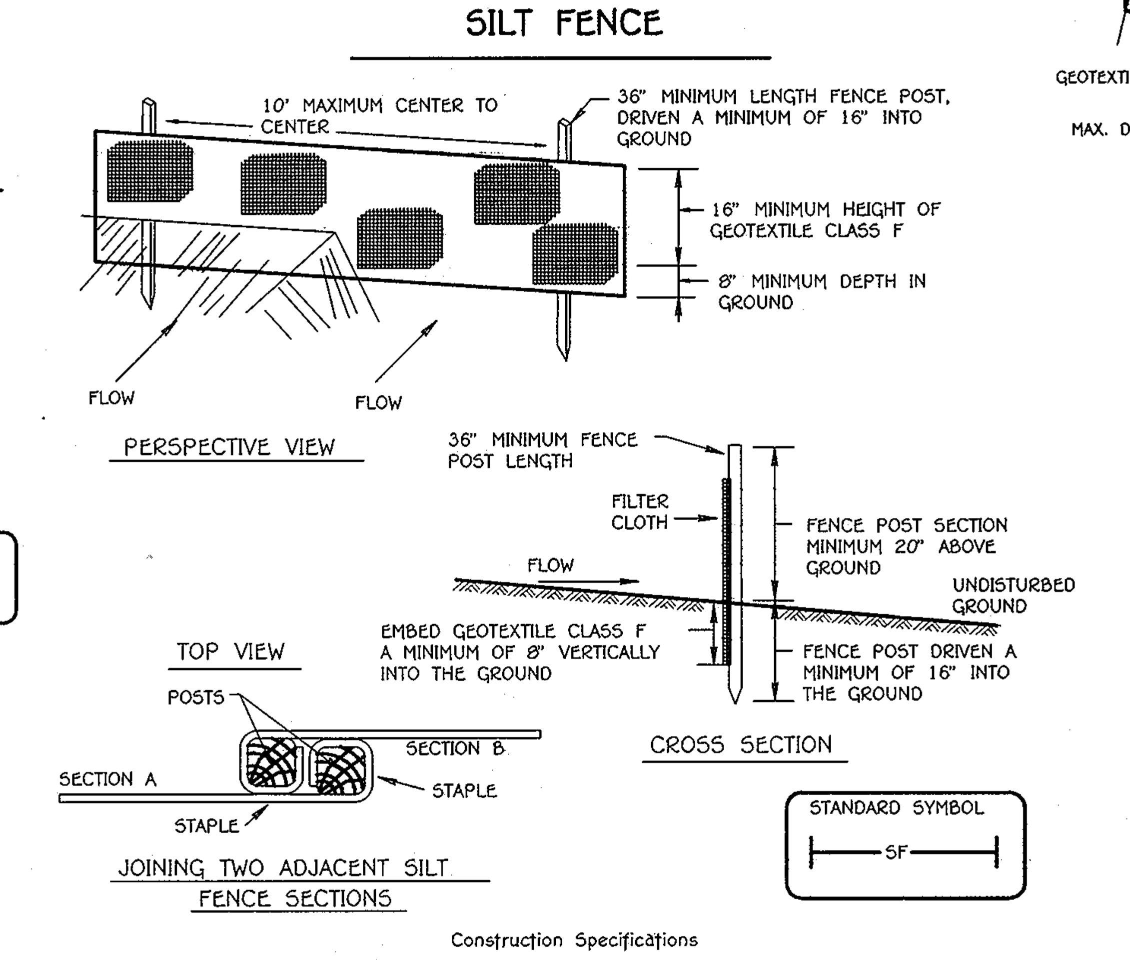
1. Fencing shall be 42" in height and constructed in accordance with the latest Maryland State Highway Details for Chain Link Fencing. The specification for a 6' fence shall be used, substituting 42" fabric and 6' length posts.
2. Chain link fence shall be fastened securely to the fence posts with wire ties. The lower tension wire, brace and truss rods, drive anchors and post caps are not required except on the ends of the fence.
3. Filter cloth shall be fastened securely to the chain link fence with ties spaced every 24" at the top and mid section.
4. Filter cloth shall be embedded a minimum of 8" into the ground.
5. When two sections of filter cloth adjoin each other, they shall be overlapped by 6" and folded.
6. Maintenance shall be performed as needed and silt buildups removed when "bulges" develop in the silt fence, or when silt reaches 50% of fence height
7. Filter cloth shall be fastened securely to each fence post with wire ties or staples at top and mid section and shall meet the following requirements for Geotextile Class F:

Tensile Strength	50 lbs/in (min.)	Test: MSMT 509
Tensile Modulus	20 lbs/in (min.)	Test: MSMT 509
Flow Rate	0.3 gal/ft /minute (max.)	Test: MSMT 322
Filtering Efficiency	75% (min.)	Test: MSMT 322

Design Criteria

Slope	Slope Steepness	Slope Length (maximum)	Silt Fence Length (maximum)
0 – 10%	0 – 10:1	Unlimited	Unlimited
10 – 20%	10:1 – 5:1	200 feet	1,500 feet
20 – 33%	5:1 – 3:1	100 feet	1,000 feet
33 – 50%	3:1 – 2:1	100 feet	500 feet
50% +	2:1 +	50 feet	250 feet

SILT FENCE



STANDARD SYMBOL SF

Construction Specifications

1. Fence posts shall be a minimum of 36" long driven 16" minimum into the ground. Wood posts shall be 11/2" x 11/2" square (minimum) cut, or 13/4" diameter (minimum) round and shall be of sound quality hardwood. Steel posts will be standard T or U section weighting not less than 1.00 pond per linear foot.
2. Geotextile shall be fastened securely to each fence post with wire ties or staples at top and mid-section and shall meet the following requirements for Geotextile Class F:

Tensile Strength	50 lbs/in (min.)	Test: MSMT 509
Tensile Modulus	20 lbs/in (min.)	Test: MSMT 509
Flow Rate	0.3 gal ft / minute (max.)	Test: MSMT 322
Filtering Efficiency	75% (min.)	Test: MSMT 322

3. Where ends of geotextile fabric come together, they shall be overlapped, folded and stapled to prevent sediment bypass.
4. Silt Fence shall be inspected after each rainfall event and maintained when bulges occur or when sediment accumulation reached 50% of the fabric height.

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWAGE SYSTEMS HOWARD COUNTY HEALTH DEPARTMENT

B Nixon for Peter Beilenson — 2/22/2011
COUNTY HEALTH OFFICER — DATE

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK – 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 – 2855

DEVELOPER'S CERTIFICATE

"I/We certify that all development and construction will be done according to this plan for sediment and erosion control, and that all responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District."

Signature of Developer — 1/28/11 Date

DR. STUART N. SCHEINBERG
Printed Name Of Developer

~~These plans have been reviewed For The Howard Soil Conservation District and meet the technical requirements.~~

~~USDA-Natural Resources Conservation Service~~ — Date

ENGINEER'S CERTIFICATE

"I certify that this plan for sediment and erosion control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District."

Signature of Engineer — 1/27/11
Date

CHARLES J. CROVO SR.
Printed Name Of Engineer

This development plan is approved for soil erosion and sediment control by the Howard Soil Conservation District.

John R. Robertson — 2/9/11
Howard Soil Conservation District — Date

DATE	DESCRIPTION
	REVISION BLOCK

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Director – Department of Planning and Zoning — 2/25/11 Date

Chief, Division of Land Development — 2/25/11 Date

Chief, Development Engineering Division — 2/10/11 Date

OWNER/DEVELOPER
ANIMAL MEDICAL HOSPITAL
AT GLENWOOD
2465 MARYLAND ROUTE 97
SUITE 7
GLENWOOD, MARYLAND 21738
DR. STUART N. SCHEINBERG D.V.M.
(410) 489-9677

Address Chart

BUILDING NO.	STREET ADDRESS
1. HOSPITAL	2890 McKENDREE ROAD
2. KENNEL	2892 McKENDREE ROAD

PROJECT			SECTION/AREA	PARCEL	LOT
ANIMAL MEDICAL HOSPITAL DOG KENNEL AND PET GROOMING ESTABLISHMENT			N/A	P/O 217	5

PLAT REF.	BLOCK NO.	ZONE	TAX MAP	ELEC. DIST.	CENSUS TR.
19072	11	RR-DEO	14	FOURTH	6040.02

WATER CODE N/A — SEWER CODE N/A

SEDIMENT CONTROL NOTES AND DETAILS

"REVISED SITE DEVELOPMENT PLAN"
ANIMAL MEDICAL HOSPITAL
AT GLENWOOD
GREEN MEADOWS
LOT 5

TAX MAP No.: 14 GRID No.: 11
PLAT NO. 19072 P/O PARCEL No.: 217
FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: JANUARY 26, 2011

SHEET 8 OF 19 SDP-08-004

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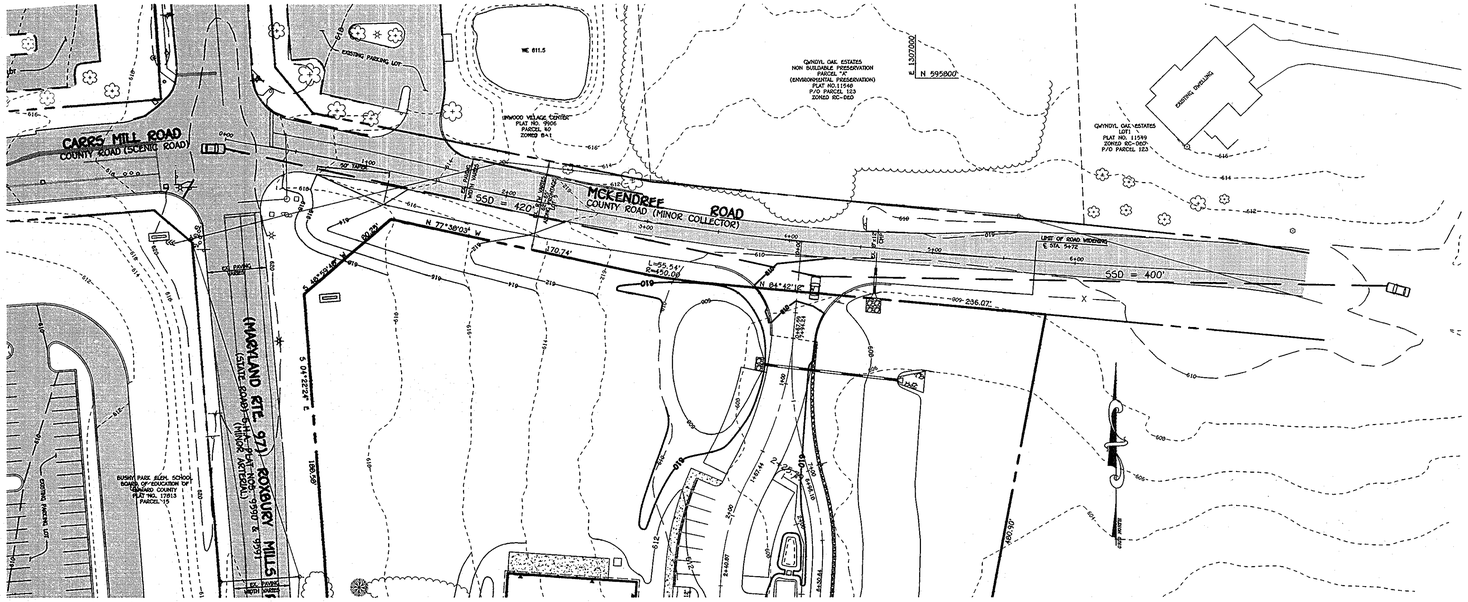
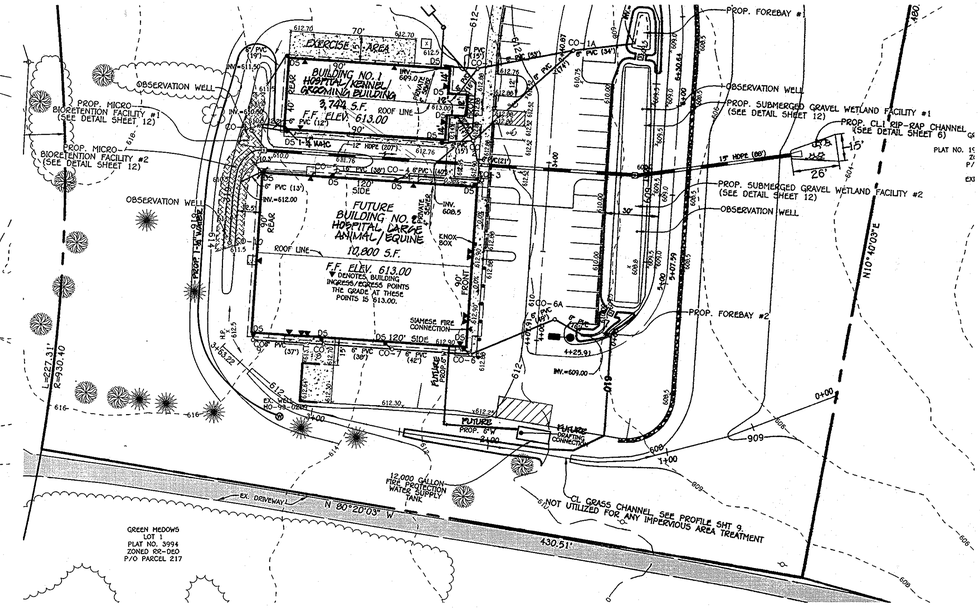


PLAN

SCALE: 1" = 50'

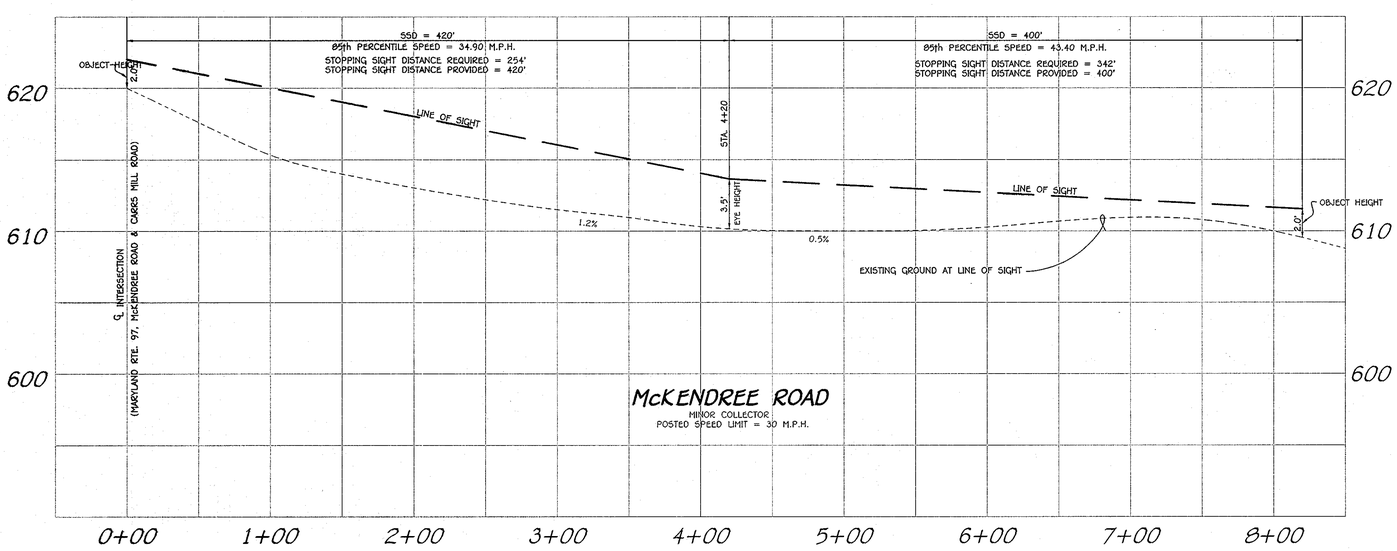


PLAN

SCALE: 1" = 40'

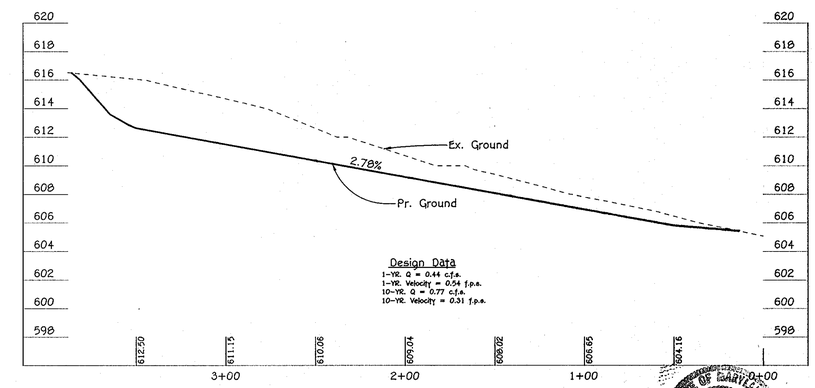
Note

Existing topography and features were derived from a field run monumented boundary survey by Fisher, Collins and Carter Inc. and Harford Aerial Surveys inc. on or about October 2005 and November 2006.



PROFILE

SCALE: HOR. : 1" = 50'
VER. : 1" = 5'



CL GRASS CHANNEL PROFILE

SCALE: HOR. : 1" = 40'
VER. : 1" = 5'

"Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland. License No. 13204, Expiration Date: November 3, 2012."

NOTE: THE PURPOSE OF THIS PLAN IS TO REPLACE THE SWM POND WITH THE NEW CHAPTER 5 STANDARDS AND REGULATIONS, ENLARGE THE KENNEL/GROOMING BUILDING BY 20' IN LENGTH AND LABEL THE ANIMAL MEDICAL HOSPITAL AS FUTURE.

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWAGE SYSTEMS
HOWARD COUNTY HEALTH DEPARTMENT

B Nelson for Peter Benkenson — 2/22/2011
COUNTY HEALTH OFFICER — DATE

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

DATE	DESCRIPTION
6/10/11	REMOVED 8" WATER TO BLDG. NO. 2, REVISED FOOTPRINT, DIMENSIONS AND SQUARE FOOTAGE OF BLDG. NO. 1 AND REVISED SEPTIC SYSTEM

REVISION BLOCK

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Director - Department of Planning and Zoning — Date 2/25/11
Chief, Division of Land Development — Date 2/25/11
Chief, Development Engineering Division — Date 2/10/11

OWNER/DEVELOPER
ANIMAL MEDICAL HOSPITAL
AT GLENWOOD
2465 MARYLAND ROUTE 97
SUITE 7
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ANIMAL MEDICAL HOSPITAL DOG KENNEL AND PET GROOMING ESTABLISHMENT			N/A	P/O 217	5
PLAT REF.	BLOCK NO.	ZONE	TAX MAP	ELEC. DIST.	CENSUS TR.
19072	11	RR-DEO	14	FOURTH	6040.02
WATER CODE N/A			SEWER CODE N/A		

STOPPING SIGHT DISTANCE PLAN & PROFILE, GRASS CHANNEL PLAN & PROFILE

ANIMAL MEDICAL HOSPITAL AT GLENWOOD

GREEN MEADOWS
LOT 5

TAX MAP No.: 14 GRID No.: 11
PLAT NO. 19072 P/O PARCEL No.: 217
FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: JANUARY 26, 2011

SHEET 9 OF 19 SDP-08-004

I:\2005\05090\dwg\05090 REPLACEMENT SHEET SIGHT DISTANCE PLAN (SHEET 9).dwg, 1/26/2011 10:13:10 AM, 36 Mylar.pc3

SCHEDULE A – PERIMETER LANDSCAPING

PERIMETER	CATEGORY (PROPERTIES/ ROADWAYS)	LANDSCAPE TYPE	LINEAR FEET OF OF ROADWAY FRONTAGE PERIMETER	CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NUMBER OF PLANTS REQUIRED: SHADE TREES	NUMBER OF PLANTS REQUIRED: EVERGREEN TREES	NUMBER OF PLANTS REQUIRED: SHRUBS	NUMBER OF PLANTS PROVIDED: SHADE TREES	NUMBER OF PLANTS PROVIDED: EVERGREEN TREES	NUMBER OF PLANTS PROVIDED: SHRUBS
P-1	NON-RES. TO ROAD	B	415.89'	YES, NOTE #1	NO	8	10	-	2	8	-
P-2	NON-RES. TO RES.	D	430.51'	YES, NOTE #2	NO	7	43	-	3	38	-
P-3	NON-RES. TO RES.	C	480.89'	NO	NO	12	24	-	10	28	-
P-4	NON-RES. TO ROAD	B	542.60'	NO	NO	14	14	-	14	14	-

*-WE ARE SUBSTITUTING 4 ADDITIONAL EVERGREEN TREES IN PLACE OF 2 SHADE TREES.

NOTE #1: EXISTING VEGETATION TO REMAIN INCLUDES 6 SHADE TREES AND 2 EVERGREEN TREES.

NOTE #2: EXISTING VEGETATION TO REMAIN INCLUDES 4 SHADE TREES AND 5 EVERGREEN TREES.

SCHEDULE B PARKING LOT INTERNAL LANDSCAPING

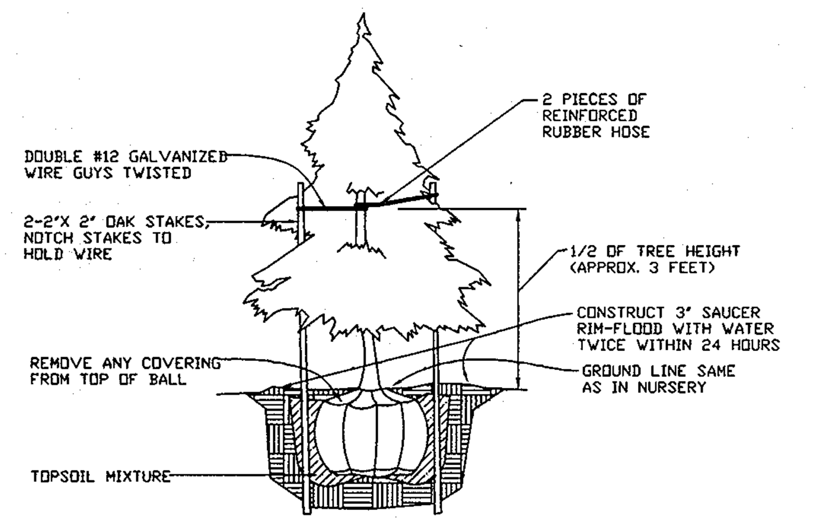
NUMBER OF PARKING SPACES	32
NUMBER OF TREES REQUIRED (1:20 Spaces)	2
NUMBER OF TREES PROVIDED: SHADE TREES OTHER TREES (2:1 SUBSTITUTION)	 2 -

NOTE: THE PURPOSE OF THIS PLAN IS TO REPLACE THE SWM POND WITH THE NEW CHAPTER 5 STANDARDS AND REGULATIONS, ENLARGE THE KENNEL/GROOMING BUILDING BY 20' IN LENGTH AND LABEL THE ANIMAL MEDICAL HOSPITAL AS FUTURE.

LANDSCAPE LEGEND

SYMBOL	QTY.	BOTANICAL AND COMMON NAME	SIZE	COMMENTS
QP	13	ACER PALMATUM AUTROPURPEUM JAPANESE RED MAPLE	1½-2" CAL.	ORNAMENTAL
TC	6	TILIA CORDATA 'GREENSPIRE' GREENSPIRE LITTLELEAF LINDEN	2½-3" CAL.	SHADE
QR	7	QUERCUS RUBRA RED OAK	2½-3" CAL.	SHADE
AR	5	ACER RUBRUM 'OCTOBER GLORY' OCTOBER GLORY RED MAPLE	2½-3" CAL.	SHADE
IO	25	ILEX OPACA AMERICAN HOLLY	6' - 8' HEIGHT	EVERGREEN
PS	47	PINUS STROBUS EASTERN WHITE PINE	6' - 8' HEIGHT	EVERGREEN
LC	16	CUPPRESSOCYPARIS LEYLANDI/LEYLAND CYPRESS	5' - 6' HEIGHT	EVERGREEN

NOTE: TREE TYPES ARE ONLY AN RECOMMENDATION, THESE MAY BE REVISED TO A COUNTY APPROVED EQUIVALENT FROM THE HOWARD COUNTY LANDSCAPE MANUAL. "THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL." REQUIRED LANDSCAPE SURETY FOR THE 31 SHADE AND 88 EVERGREEN TREES HAS BEEN POSTED AS A PART OF THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF $22,500.00.

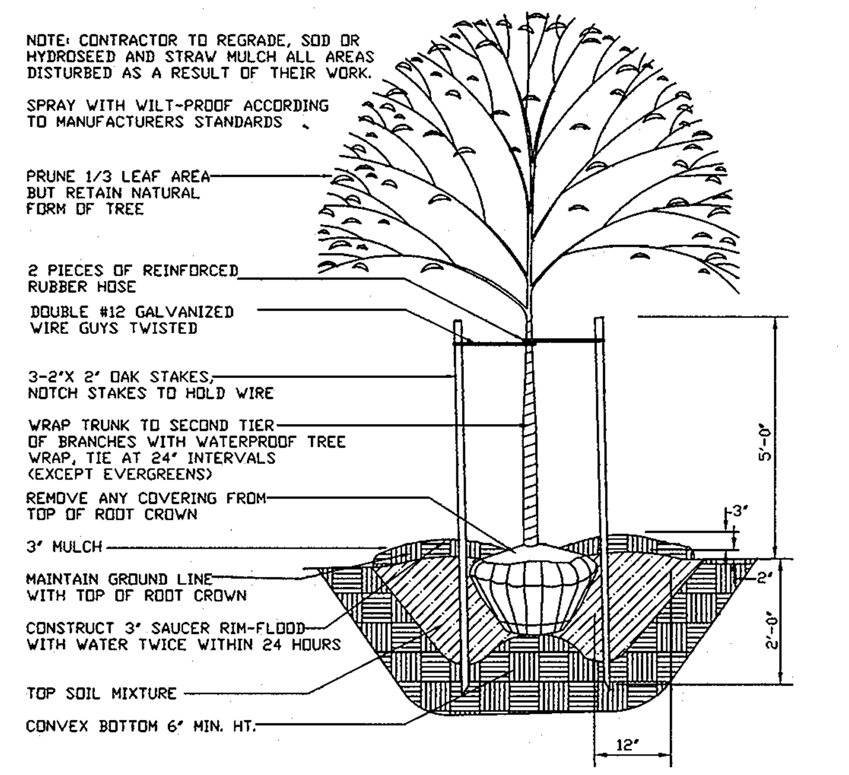


EVERGREEN PLANTING DETAIL

DEVELOPER'S / BUILDER'S CERTIFICATE

I/WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE HOWARD COUNTY LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION, A LETTER OF LANDSCAPE INSTALLATION ACCOMPANIED BY AN EXECUTED ONE YEAR GUARANTEE OF PLANT MATERIALS WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

[signature] 1/28/11
DR. STUART SCHEINBERG, D.V.M. DATE



TREE PLANTING DETAIL

"SHOULD ANY TREE DESIGNATED FOR PRESERVATION FOR WHICH LANDSCAPING CREDIT IS GIVEN, DIE PRIOR TO RELEASE OF BONDS, THE OWNER WILL BE REQUIRED TO REPLACE THE TREE WITH THE EQUIVALENT SPECIES OR WITH A TREE WHICH WILL OBTAIN THE SAME HEIGHT, SPREAD AND GROWTH CHARACTERISTICS. THE REPLACEMENT TREE MUST BE A MINIMUM OF 3 INCHES IN CALIPER AND INSTALLED AS REQUIRED IN THE HOWARD COUNTY LANDSCAPE MANUAL."

"AT THE TIME OF PLANT INSTALLATION, ALL TREES LISTED AND APPROVED ON THE LANDSCAPE PLAN, SHALL COMPLY WITH THE PROPER HEIGHT REQUIREMENT IN ACCORDANCE WITH THE HOWARD COUNTY LANDSCAPE MANUAL. IN ADDITION, NO SUBTITUTIONS OR RELOCATIONS OF THE REQUIRED PLANTINGS MAY BE MADE WITHOUT PRIOR REVIEW AND APPROVAL FROM THE DEPARTMENT OF PLANNING AND ZONING. ANY DEVIATIONS FROM THE APPROVED LANDSCAPE PLAN MAY RESULT IN DENIAL OR DELAY IN THE RELEASE OF LANDSCAPE SURETY UNTIL SUCH TIME AS ALL REQUIRED MATERIALS ARE PLANTED AND/OR REVISIONS ARE MADE TO THE ROAD DRAWING PLANS".

"THE OWNER, TENANTS AND/OR THEIR AGENTS SHALL BE RESPONSIBLE FOR MAINTENACE OF THE REQUIRED PERIMETER LANDSCAPING. ALL PLANT MATERIALS SHALL BE MAINTAINED IN GOOD GROWING CONDITION, AND WHEN NECESSARY, REPLACED WITH NEW MATERIALS TO ENSURE CONTINUED COMPLIANCE WITH APPLICABLE REGULATIONS. ALL THE OTHER REQUIRED LANDSCAPING SHALL BE PERMANENTLY MAINTAINED IN GOOD CONDITION, AND WHEN NECESSARY, REPAIRED OR REPLACED".

PLANTING SPECIFICATIONS

PLANTS, RELATED MATERIAL, AND OPERATIONS SHALL MEET THE DETAILED DESCRIPTION AS GIVEN ON THE PLANS AND AS DESCRIBED HEREIN.

ALL PLANT MATERIAL, UNLESS OTHERWISE SPECIFIED, SHALL BE NURSERY GROWN, UNIFORMLY BRANCHED, HAVE A VIGOROUS ROOT SYSTEM, AND SHALL CONFORM TO THE SPECIES, SIZE, ROOT AND SHAPE SHOWN ON THE PLANT LIST AND THE AMERICAN ASSOCIATION OF NURSERYMEN (AAN) STANDARDS. PLANT MATERIAL SHALL BE HEALTHY, VIGOROUS, FREE FROM DEFECTS, DECAY, DISFIGURING ROOTS, SUN SCALD INJURIES, ABRASIONS OF THE BARK, PLANT DISEASE, INSECT PEST EGGS, BORERS AND ALL FORMS OF INSECT INFESTATIONS OR OBJECTIONABLE DISFIGUREMENTS. PLANT MATERIAL THAT IS WEAK OR WHICH HAS BEEN CUT BACK FROM LARGER GRADES TO MEET SPECIFIED REQUIREMENTS WILL BE REJECTED. TREES WITH FORKED LEADERS WILL NOT BE ACCEPTED. ALL PLANTS SHALL BE FRESHLY DUG; NO HEALED-IN PLANTS FROM COLD STORAGE WILL BE ACCEPTED.

UNLESS OTHERWISE SPECIFIED, ALL GENERAL CONDITIONS, PLANTING OPERATIONS, DETAILS AND PLANTING SPECIFICATION SHALL CONFORM TO "LANDSCAPE SPECIFICATION GUIDELINES FOR BALTIMORE-WASHINGTON METROPOLITAN AREAS", (HEREINAFTER "LANDSCAPE GUIDELINES") APPROVED BY THE LANDSCAPE CONTRACTORS ASSOCIATION OF METROPOLITAN WASHINGTON AND THE POTOMAC CHAPTER OF THE AMERICAN SOCIETY OF LANDSCAPE ARCHITECT, LATEST EDITION, INCLUDING ALL AGENDA.

CONTRACTOR SHALL BE REQUIRED TO GUARANTEE ALL PLANT MATERIAL FOR A PERIOD OF ONE YEAR AFTER DATE OF ACCEPTANCE IN ACCORDANCE WITH THE APPROPRIATE SECTION OF THE LANDSCAPE GUIDELINES. CONTRACTOR'S ATTENTION IS DIRECTED TO THE MAINTENANCE REQUIREMENTS FOUND WITHIN THE ONE YEAR SPECIFICATIONS INCLUDING WATERING AND REPLACEMENT OF SPECIFIED PLANT MATERIAL.

CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING UTILITY COMPANIES, UTILITY CONTRACTORS AND "MISS UTILITY" A MINIMUM OF 48 HOURS PRIOR TO BEGINNING ANY WORK. CONTRACTOR MAY MAKE MINOR ADJUSTMENTS IN SPACING AND LOCATION OF PLANT MATERIAL TO AVOID CONFLICTS WITH UTILITIES. DAMAGE TO EXISTING STRUCTURE AND UTILITIES SHALL BE REPAIRED AT THE EXPENSE OF THE CONTRACTOR.

PROTECTION OF EXISTING VEGETATION TO REMAIN SHALL BE ACCOMPLISHED BY THE TEMPORARY INSTALLATION OF 4 FOOT HIGH SNOW FENCE OR BLAZE ORANGE SAFETY FENCE AT THE DRIP LINE.

CONTRACTOR IS RESPONSIBLE FOR INSTALLING ALL MATERIAL IN THE PROPER PLANTING SEASON FOR EACH PLANT TYPE. ALL PLANTING IS TO BE COMPLETED WITHIN THE GROWING SEASON OF COMPLETION OF SITE CONSTRUCTION.

BID SHALL BE BASE ON ACTUAL SITE CONDITIONS. NO EXTRA PAYMENT SHALL BE MADE FOR WORK ARISING FROM SITE CONDITIONS DIFFERING FROM THOSE INDICATED ON DRAWINGS AND SPECIFICATIONS.

PLANT QUANTITIES ARE PROVIDED FOR THE CONVENIENCE OF THE CONTRACTOR ONLY. IF DISCREPANCIES EXIST BETWEEN QUANTITIES SHOWN ON PLAN AND THOSE SHOWN ON THE PLANT LIST, THE QUANTITIES ON THE PLAN TAKE PRECEDENCE.

ALL SHRUBS SHALL BE PLANTED IN CONTINUOUS TRENCHES OR PREPARED PLANTING BEDS AND MULCHED WITH COMPOSTED HARDWOOD MULCH AS DETAILS AND SPECIFIED EXCEPT WHERE NOTED ON PLANS.

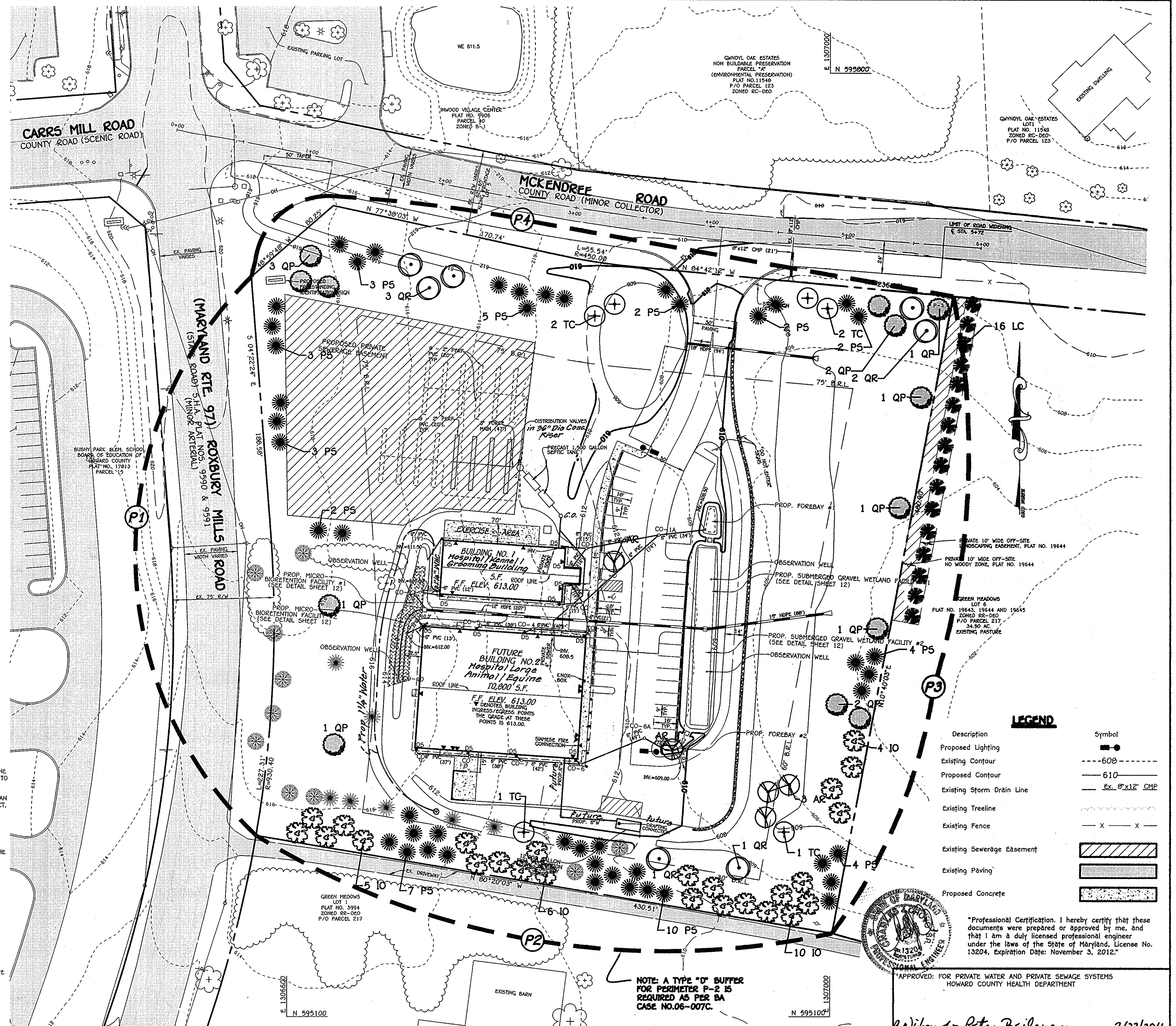
POSITIVE DRAINAGE SHALL BE MAINTAINED IN PLANTING BEDS 2 PERCENT SLOPE).

PLANTING MIX SHALL BE AS FOLLOWS: DECIDUOUS PLANTS – TWO PARTS TOPSOIL, ONE PART WELL-ROTTED COW OR HORSE MANURE. ADD 3 LBS. OF STANDARD FERTILIZER PER CUBIC YARD OF PLANTING MIX. EVERGREEN PLANTS – TWO PARTS TOPSOIL, ONE PART HUMUS OR OTHER APPROVED ORGANIC MATERIAL. ADD 3 LBS. OF EVERGREEN (ACIDIC) FERTILIZER PER CUBIC YARD OF PLANTING MIX. TOPSOIL SHALL CONFORM TO THE LANDSCAPE GUIDELINES.

WEED CONTROL: INCORPORATE A PRE-EMERGENT HERBICIDE INTO THE PLANTING BED FOLLOWING RECOMMENDED RATES ON THE LABEL. CAUTION: BE SURE TO CAREFULLY CHECK THE CHEMICAL USED TO ASSURE ITS ADAPTABILITY TO THE SPECIFIC GROUND COVER TO BE TREATED.

ALL AREAS WITHIN CONTRACT LIMITS DISTURBED DURING OR PRIOR TO CONSTRUCTION NOT DESIGNATED TO RECEIVE PLANTS AND MULCH SHALL BE FINE GRADED AND SEEDED.

THIS PLAN IS INTENDED FOR LANDSCAPE USE ONLY. SEE OTHER PLAN SHEETS FOR MORE INFORMATION ON GRADING, SEDIMENT CONTROL, LAYOUT, ETC.



LEGEND

Description	Symbol
Proposed Lighting	■-●
Existing Contour	----608-------
Proposed Contour	——610——
Existing Storm Drain Line	Ex. 8"x12" CMP
Existing Treeline	
Existing Fence	—x——x—
Existing Sewerage Easement	
Existing Paving	
Proposed Concrete	

STATE OF MARYLAND CHARLES J. CRONIN No. 13204 PROFESSIONAL ENGINEER

"Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 13204, Expiration Date: November 3, 2012."

"APPROVED: FOR PRIVATE WATER AND PRIVATE SEWAGE SYSTEMS HOWARD COUNTY HEALTH DEPARTMENT

[signature] 2/22/2011
COUNTY HEALTH OFFICER DATE

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

DATE	DESCRIPTION
6·16·11	Removed 6"W to Bldg No. 2; revised footprint & sq. ft. of Bldg No. 1; revised septic system.

REVISION BLOCK

APPROVED: DEPARTMENT OF PLANNING AND ZONING

[signature] 2/25/11
Director – Department of Planning and Zoning Date

[signature] 2/25/11
Chief, Division of Land Development Date

[signature] NY 2/10/11
Chief, Development Engineering Division Date

OWNER/DEVELOPER
ANIMAL MEDICAL HOSPITAL
AT GLENWOOD
2465 MARYLAND ROUTE 97
SUITE 7
GLENWOOD, MARYLAND 21738
DR. STUART N. SCHEINBERG D.V.M.
(410) 489-9677

Address Chart

BUILDING NO.	STREET ADDRESS
1. HOSPITAL	2890 McKENDREE ROAD
2. KENNEL	2892 McKENDREE ROAD

PROJECT			SECTION/AREA	PARCEL	LOT
ANIMAL MEDICAL HOSPITAL DOG KENNEL AND PET GROOMING ESTABLISHMENT			N/A	P/O 217	5

PLAT REF.	BLOCK NO.	ZONE	TAX MAP	ELEC. DIST.	CENSUS TR.
19072	11	RR-DEO	14	FOURTH	6040.02

WATER CODE N/A SEWER CODE N/A

LANDSCAPE PLAN

ANIMAL MEDICAL HOSPITAL AT GLENWOOD

GREEN MEADOWS
LOT 5

TAX MAP No.: 14 GRID No.: 11
PLAT NO. 19072 P/O PARCEL No.: 217
FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: 1" = 40' DATE: JANUARY 26, 2011

SHEET 10 OF 19 SDP-08-004

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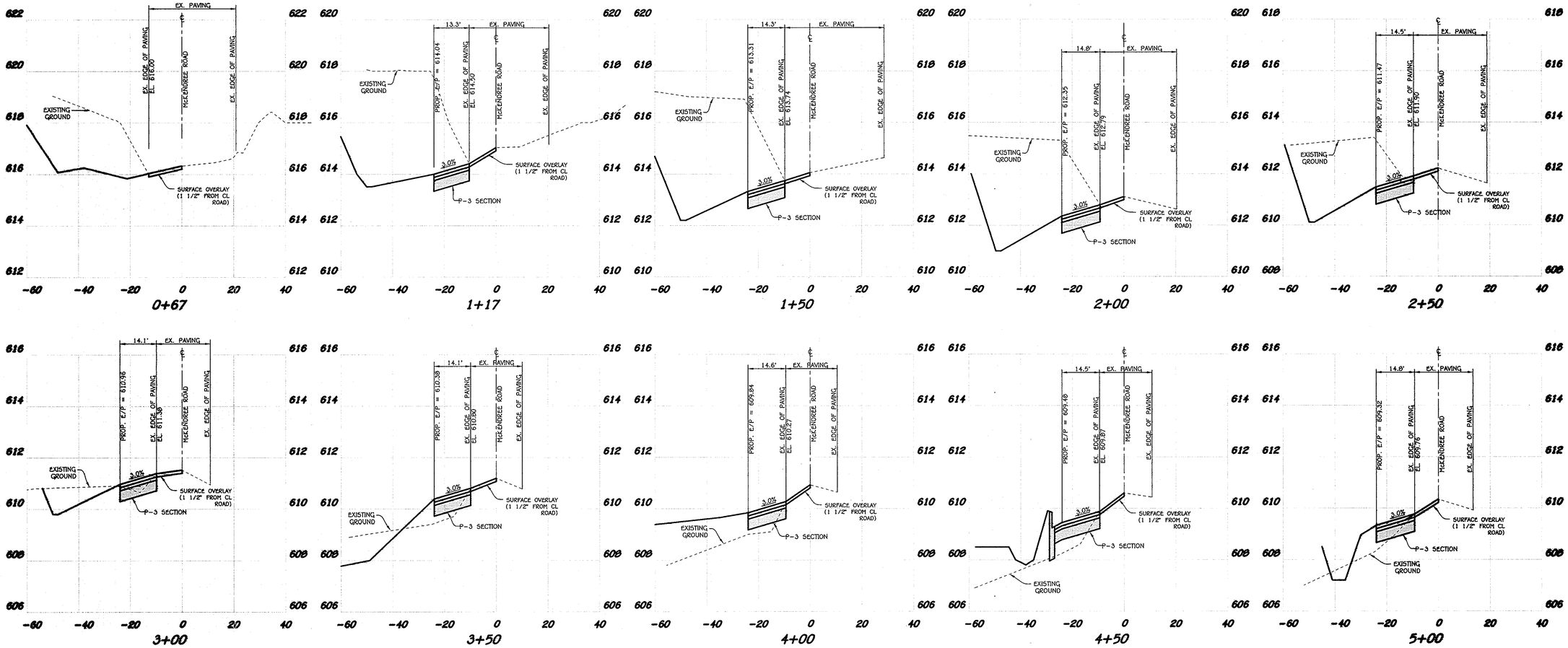
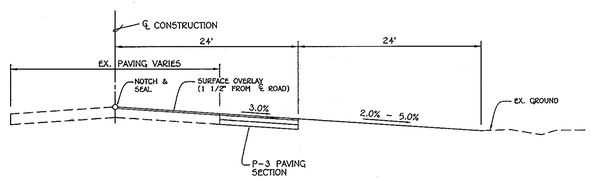


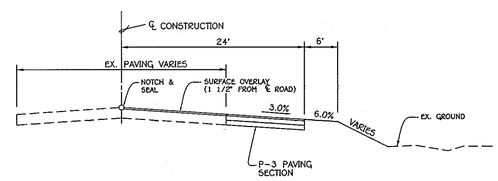
CROSS SECTIONS

SCALE: 1" = 20' HOR.
1" = 2' VERT.



McKENDREE ROAD TYPICAL ROADWAY SECTION

NO SCALE
FROM CL STA 1+17 TO CL STA 3.50



McKENDREE ROAD TYPICAL ROADWAY SECTION

NO SCALE
FROM CL STA 4+00 TO CL STA 5+72

NOTE: THE PURPOSE OF THIS PLAN IS TO REPLACE THE SWM POND WITH THE NEW CHAPTER 5 STANDARDS AND REGULATIONS, ENLARGE THE KENNEL/GROOMING BUILDING BY 20' IN LENGTH AND LABEL THE ANIMAL MEDICAL HOSPITAL AS FUTURE.

STATE OF MARYLAND — STEVEN I. GROSS — No. 13204 — PROFESSIONAL ENGINEER

"Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 13204, Expiration Date: November 3, 2012."

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWAGE SYSTEMS
HOWARD COUNTY HEALTH DEPARTMENT

B Nicole for Peter Beilenson — 2/22/2011
COUNTY HEALTH OFFICER — DATE

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

DATE	DESCRIPTION
	REVISION BLOCK

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Director - Department of Planning and Zoning — Date
Chief, Division of Land Development — Date 2/25/11
Chief, Development Engineering Division NY — Date 2/10/11

OWNER/DEVELOPER
ANIMAL MEDICAL HOSPITAL
AT GLENWOOD
2465 MARYLAND ROUTE 97
SUITE 7
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Address Chart

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PROJECT			SECTION/AREA	PARCEL	LOT
ANIMAL MEDICAL HOSPITAL DOG KENNEL AND PET GROOMING ESTABLISHMENT			N/A	P/O 217	5
PLAT REF.	BLOCK NO.	ZONE	TAX MAP	ELEC. DIST.	CENSUS TR.
19072	11	RR-DEO	14	FOURTH	6040.02
WATER CODE N/A			SEWER CODE N/A		

McKENDREE ROAD - ROAD WIDENING CROSS SECTIONS "REVISED SITE DEVELOPMENT PLAN" ANIMAL MEDICAL HOSPITAL AT GLENWOOD

GREEN MEADOWS
LOT 5

TAX MAP No.: 14 GRID No.: 11
PLAT NO. 19072 P/O PARCEL No.: 217
FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: JANUARY 26, 2011

SHEET 11 OF 19 SDP-08-004

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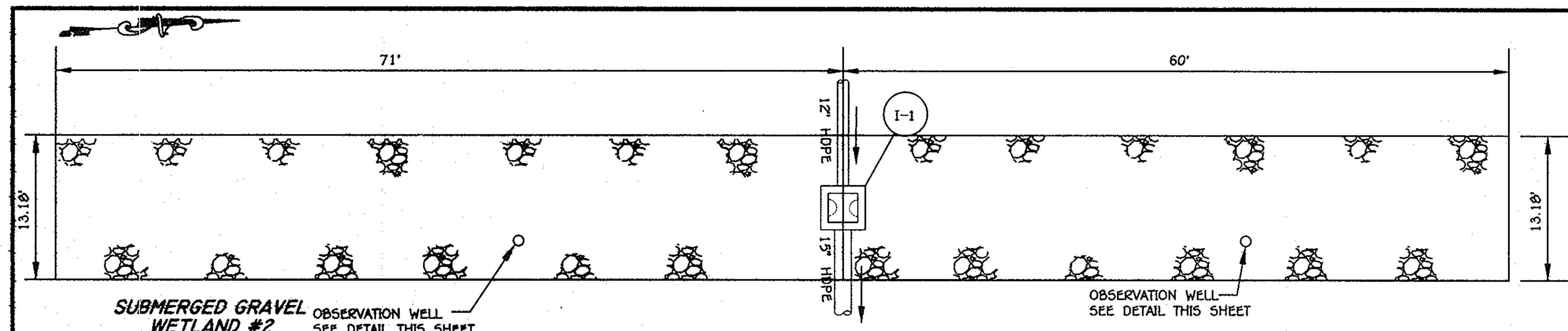
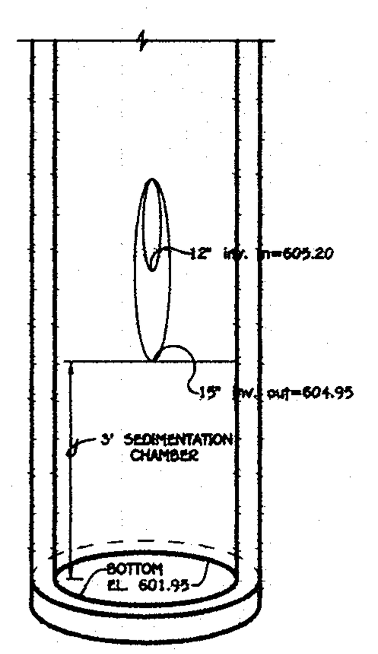


SUBMERGED GRAVEL WETLAND FACILITIES #1 & #2 - PLAN
SCALE : 1"= 10'



MANHOLE DETAIL (I-1)
NO SCALE

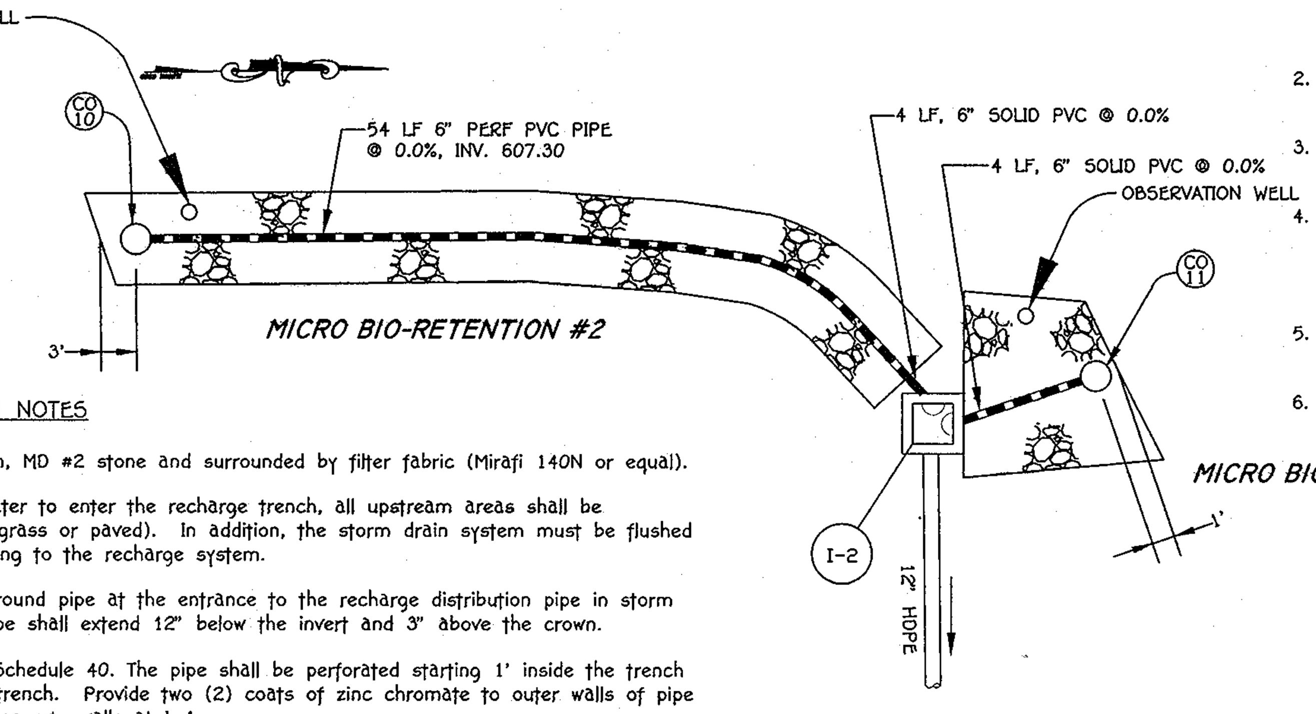
OPERATION AND MAINTENANCE SCHEDULE FOR SUBMERGED GRAVEL WETLAND (M-2), LANDSCAPE INFILTRATION (M-3), MICRO BIORETENTION (M-6), RAIN GARDENS (M-7), BIORETENTION SWALE (M-8), ENHANCED FILTERS (M-9)

1. ANNUAL MAINTENANCE OF PLANT MATERIAL, MULCH LAYER AND SOIL LAYER IS REQUIRED. MAINTENANCE OF MULCH AND SOIL IS LIMITED TO CORRECTING AREAS OF EROSION OR WASH OUT. ANY MULCH REPLACEMENT SHALL BE DONE IN THE SPRING. PLANT MATERIAL SHALL BE CHECKED FOR DISEASE AND INSECT INFESTATION AND MAINTENANCE WILL ADDRESS DEAD MATERIAL AND PRUNING. ACCEPTABLE REPLACEMENT PLANT MATERIAL IS LIMITED TO THE FOLLOWING: *2000* MARYLAND STORMWATER DESIGN MANUAL VOLUME II, TABLE A.4.1 AND 2.

2. SCHEDULE OF PLANT INSPECTION WILL BE TWICE A YEAR IN SPRING AND FALL. THIS INSPECTION WILL INCLUDE REMOVAL OF DEAD AND DISEASED VEGETATION CONSIDED BEYOND TREATMENT, TREATMENT OF ALL DISEASED TREES AND SHRUBS AND REPLACEMENT OF ALL DEFICIENT STAKES AND WIRES.

3. MULCH SHALL BE INSPECTED EACH SPRING. REMOVE PREVIOUS MULCH LAYER BEFORE APPLYING NEW LAYER ONCE EVERY 2 TO 3 YEARS.

4. SOIL EROSION TO BE ADDRESSED ON AN AS NEEDED BASIS, WITH A MINIMUM OF ONCE PER MONTH AND AFTER HEAVY STORM EVENTS.



MICRO BIO-RETENTION FACILITIES #1 & #2 - PLAN
SCALE : 1"= 10'

RECHARGE TRENCH NOTES

1. Stone shall be clean, MD #2 stone and surrounded by filter fabric (Mirafi 140N or equal).

2. Prior to allowing water to enter the recharge trench, all upstream areas shall be stabilized (established grass or paved). In addition, the storm drain system must be flushed clean prior to connecting to the recharge system.

3. Place an 18" half round pipe at the entrance to the recharge distribution pipe in storm drain I-1. The half pipe shall extend 12" below the invert and 3" above the crown.

4. Pipe shall be PVC Schedule 40. The pipe shall be perforated starting 1' inside the trench and solid outside the trench. Provide two (2) coats of zinc chromate to outer walls of pipe that will contact the concrete walls at I-1.

INLET I-1 & I-2 NOTES:

1. This detail shows the "catch basin" and trash rack modification to Inlets I-1 & I-2. See Howard County Standard Detail SD-4.23 for all other information and details not shown on this sheet.

2. Coat end of outside of PVC with 2 coats of zinc chromate prior to grouting annular space between pipe and inlet.

3. Manhole shall have a "catch basin" i.e., flat invert 3'-0" below 10" pipe invert to stone storage; no benching shall be installed.

4. Secure (4 stainless steel bolts) a half-round 18" HDPE to the 10" entrance to the recharge pipe draining to the stone storage. The half pipe shall extend 3" above inlet crown and 12" below inlet 10" invert. See detail this sheet.

5. Walls shall be reinforced concrete. Brick or plain concrete shall not be used.

6. The size of the perforations are ⅜" in diameter, 4 rows with 4 inch spacing and will comply with AASHTO M 36 and AASHTO M 196.

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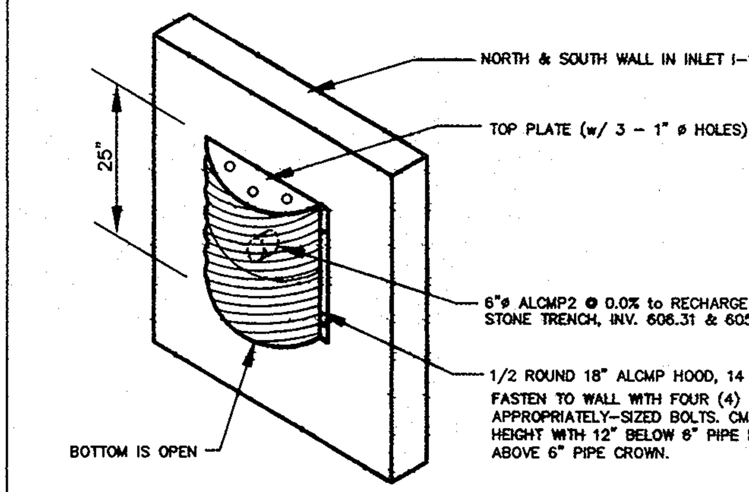
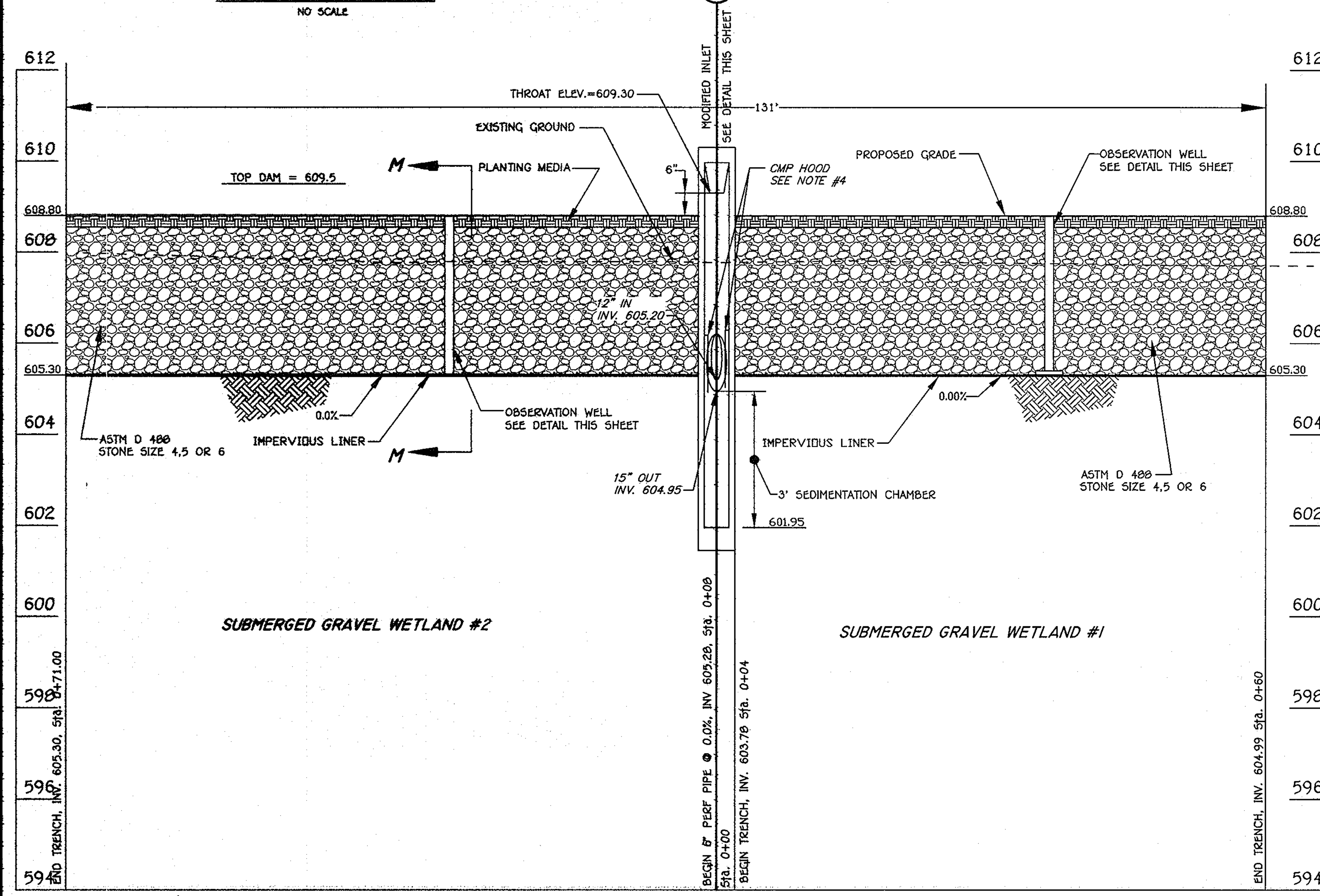
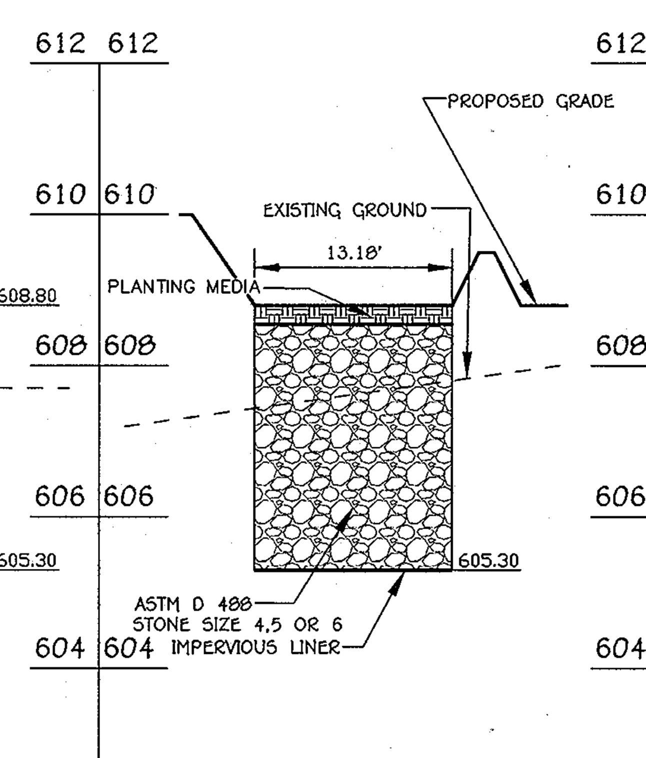


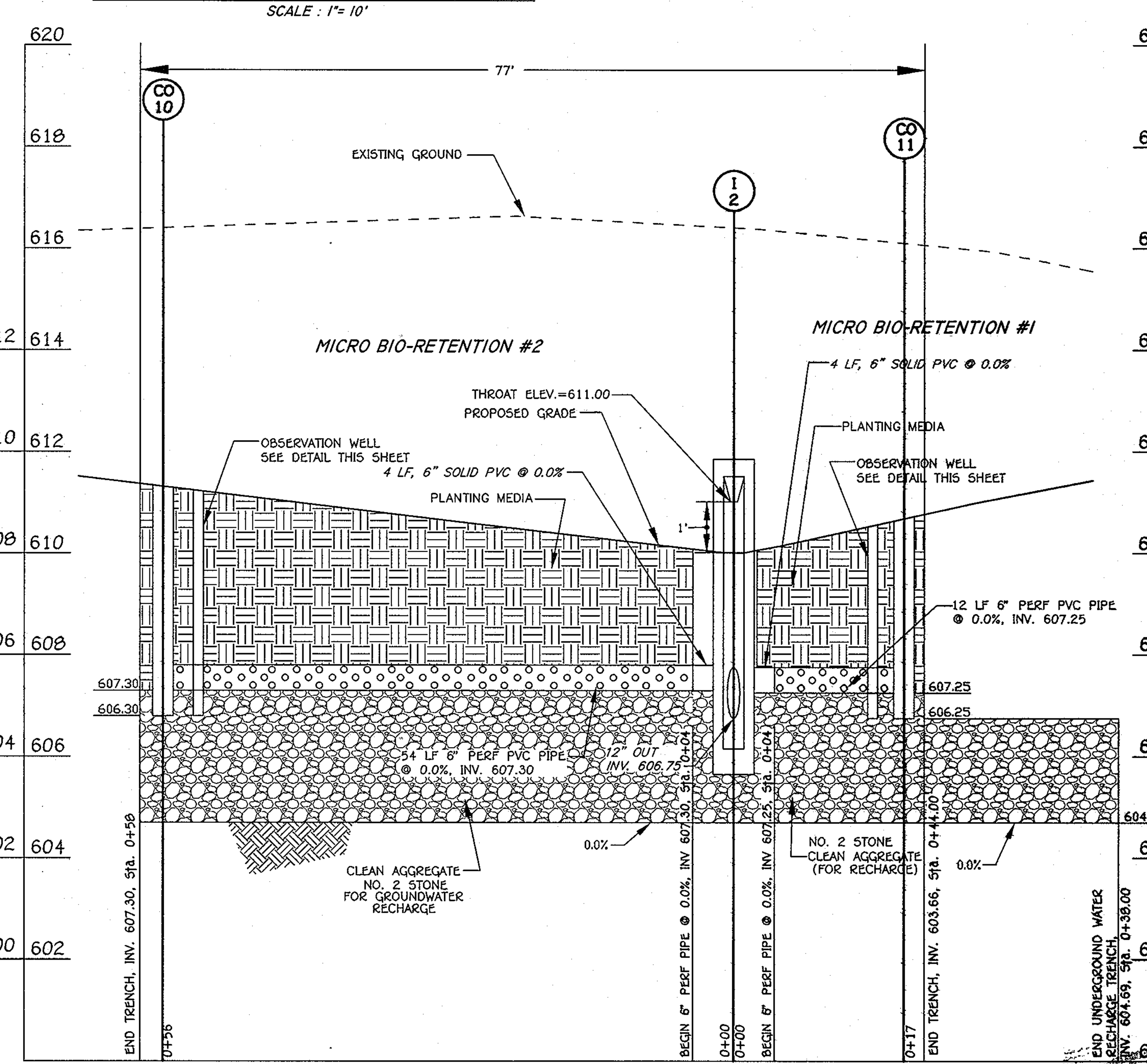
HALF ROUND ALCMP HOOD @ I-1 & I-2
NOT TO SCALE
(FOR PROTECTION OF 6" PIPE INTO MICRO BIO-RETENTION FACILITY)



SUBMERGED GRAVEL WETLAND #1 & #2
SCALE:
HORZ: 1" = 10'
VERT: 1" = 2'



SECTION M-M
SCALE:
HORZ: 1" = 10'
VERT: 1" = 2'



MICRO BIO-RETENTION PROFILE #1 & #2
SCALE:
HORZ: 1" = 10'
VERT: 1" = 2'

Infiltration and Filter System Construction Specifications

Infiltration and filter systems either take advantage of existing permeable soils or create a permeable medium such as sand for WC), and Re v. In some instances where permeability is great, these facilities may be used for Qp as well. The most common systems include infiltration trenches, infiltration basins, sand filters, and organic filters.

When properly planted, vegetation will thrive and enhance the functioning of these systems. For example, pre-treatment buffers will trap sediments that often are bound with phosphorous and metals. Vegetation planted in the facility will aid in nutrient uptake and water storage. Additionally, plant roots will provide arteries for stormwater to permeate soil for groundwater recharge. Finally, successful plantings provide aesthetic value and wildlife habitat making these facilities more desirable to the public.

Design Constraints:

> Planting buffer strips of at least 20 feet will cause sediments to settle out before reaching the facility, thereby reducing the possibility of clogging.
> Determine areas that will be saturated with water and water table depth so that appropriate plants may be selected (hydrology will be similar to bioretention facilities, see figure A.5 and Table A.4 for planting material guidance).
> Plants known to send down deep taproots should be avoided in systems where filter fabric is used as part of facility design.
> Test soil conditions to determine if soil amendments are necessary.
> Plants shall be located so that access is possible for structure maintenance.
> Stabilize heavy flow areas with erosion control mats or sod.
> Temporarily divert flows from seeded areas until vegetation is established.
> See Table A.5 for additional design considerations.

Bio-retention

Soil Bed Characteristics and Planting Media

The characteristics of the soil for the bioretention facility are perhaps as important as the facility location, size, and treatment volume. The soil must be permeable enough to allow runoff to filter through the media, while having characteristics suitable to promote and sustain a robust vegetative cover crop. In addition, much of the nutrient pollutant uptake (nitrogen and phosphorus) is accomplished through absorption and microbial activity within the soil profile. Therefore, soils must balance their chemical and physical properties to support biotic communities above and below ground.

The planting soil should be a sandy loam, loamy sand, loam (USDA), or a loam/sand mix (should contain a minimum 35 to 60% sand, by volume). The clay content for these soils should be less than 25% by volume (Environmental Quality Resources (EQR), 1996; Engineering Technology Inc. and Biohabitats, Inc. (ETAB), 1993). Soils should fall within the SM, ML, SC classifications or the Unified Soil Classification System (USCS). A permeability of at least 1.0 feet per day (0.5"/hr) is required (a conservative value of 0.5 feet per day is used for design). The soil should be free of stones, stumps, roots, or other woody material over 1" in diameter. Brush or seeds from noxious weeds (e.g., Johnson Grass, Mugwort, Nutsedge, and Canada Thistle or other noxious weeds as specified under COMAR 15.08.01.05.) should not be present in the soils. Placement of the planting soil should be in 12 to 18 lifts that are loosely compacted (tamped lightly with a backhoe bucket or traversed by dozer tracks). The specific characteristics are presented in Table A.3.

Table A.3 Planting Soil Characteristics

Parameter	Value
pH range	5.2 to 7.00
Organic matter	1.5 to 4.0% (by weight)
Magnesium	35 lbs. per acre, minimum
Phosphorus (phosphate - P2O5)	75 lbs. per acre, minimum
Potassium (potash -1(K20)	85 lbs. per acre, minimum
Soluble salts	500 ppm
Clay	10 to 25 %
Silt	30 to 55 %
Sand	35 to 60%

Mulch Layer

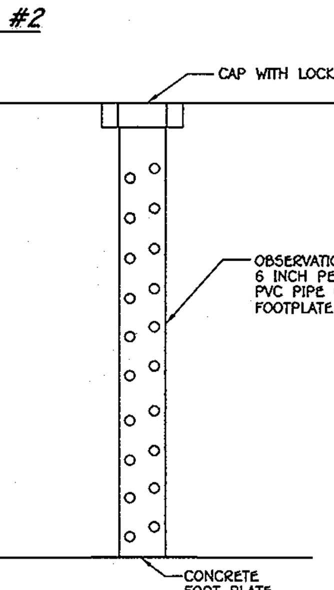
The mulch layer plays an important role in the performance of the bioretention system. The mulch layer helps maintain soil moisture and avoids surface sealing, which reduces permeability. Mulch helps prevent erosion, and provides a microenvironment suitable for soil biota at the mulch/soil interface. It also serves as a pretreatment layer, trapping the finer sediments, which remain suspended after the primary pretreatment.

The mulch layer should be standard landscape style, single or double shredded hardwood mulch or chips. The mulch layer should be well aged (stockpiled or stored for at least 12 months), uniform in color, and free of other materials, such as weed seeds, soil, roots, etc. The mulch should be applied to a maximum depth of three inches. Grass clippings should not be used as a mulch material.

Planting Guidance

Plant material selection should be based on the goal of simulating a terrestrial forested community of native species. Bioretention simulates an upland-species ecosystem. The community should be dominated by trees, but have a distinct community of understory trees, shrubs and herbaceous materials. By creating a diverse, dense plant cover, a bioretention facility will be able to treat stormwater runoff and withstand urban stresses from insects, disease, drought, temperature, wind, and exposure.
The proper selection and installation of plant materials is key to a successful system. There are essentially three zones within a bioretention facility (Figure A.5). The lowest elevation supports plant species adapted to standing and fluctuating water levels. The middle elevation supports plants that like drier soil conditions, but can still tolerate occasional inundation by water. The outer edge
is the highest elevation and generally supports plants adapted to dryer conditions. A sample of appropriate plant materials for bioretention facilities are included in Table A.4. The layout of plant material should be flexible, but should follow the general principals described in Table A.5. The objective is to have a system, which resembles a random, and natural plant layout, while maintaining optimal conditions for plant establishment and growth. For a more extensive bioretention plan, consult ETAB, 1993 or Claytor and Schueler, 1997.

NOTE: SEE SHEETS 3 & 13 FOR FOREBAY DETAILS RELATING TO SUBMERGED GRAVEL WETLAND SYSTEMS



OBSERVATION WELL DETAIL
NOT TO SCALE

NOTES:
UNDERDRAIN PIPE SHALL BE 4" TO 6" DIAMETER, SLOTTED OR PERFORATED RIGID PLASTIC PIPE (ASTMF 758, TYPE PS 28 OR AASHTO-M- 278) IN A GRAVEL LAYER. THE PREFERRED MATERIAL IS SLOTTED 4" RIGID PIPE (e.g., PVC OR HDPE).

PERFORATIONS SHALL BE 3/8" DIAMETER LOCATED 6" ON CENTER WITH A MINIMUM OF FOUR HOLES PER ROW. PIPE SHALL BE WRAPPED WITH A 1/4" (No. 4 OR 4 x 4) GALVANIZED HARDWARE CLOTH.

GRAVEL LAYER SHALL BE (No. 57 STONE PREFERRED) AT LEAST 3" THICK ABOVE AND BELOW THE UNDERDRAIN.

THE MAIN COLLECTOR PIPE SHALL BE AT A MINIMUM 0.5% SLOPE.

A RIGID, NON PERFORATED OBERSERVATION WELL MUST BE PROVIDED (ONE PER EVERY 1,000 SQ.FT.) TO PROVIDE A CLEANOUT PORT AND MONITOR PERFORMANCE OF THE FILTER.

A 4" LAYER OF PEA GRAVEL (1/8" TO 3/8" STONE) SHALL BE LOCATED BETWEEN THE FILTER MEDIA AND UNDERDRAIN TO PREVENT MIGRATION OF FINES INTO THE UNDERDRAIN. THIS LAYER MAY BE CONSIDERED PART OF THE FILTER BED WHEN BED THICKNESS EXCEEDS 24".

OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED RECHARGE FACILITIES

1. The recharge diversion inlet (I-1) shall be inspected at a minimum of three times (3x) annually. The hood shall be inspected for damage and corrosion.

2. THe Owner shall remove all trash and debris during the inpections.

3. Sediment depth 6" or greater shall be promptly removed and disposed of properly (i.e., taken to the land fill).

4. Damage to the hood shall be promptly repaired.

AS-BUILT CERTIFICATION

I Hereby Certify That The Facility Shown On This Plan Was Constructed As Shown On The " As-Built" Plans And Meets The Approved Plans And Specifications.

Signature ____ P.E. No. ____

Date: ____

Certify Means To State Or Declare A Professional Opinion Based Upon Onsite Inspections And Material Tests Which Are Conducted During Construction. The Onsite Inspections And Material Tests Are Those Inspections And Tests Deemed Sufficient And Appropriate Commonly Accepted Engineering Standards. Certify Does Not mean Or Imply A Guarantee By The Engineer Nor Does An Engineer's Certification Relieve Any Other Party From Meeting Requirements Imposed By Contract, Employment, Or Other Means, Including Meeting Commonly Accepted Industry Practices.

STATE OF MARYLAND — CHARLES A. CROVO — No. 13204 — PROFESSIONAL ENGINEER

"Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 13204, Expiration Date: November 3, 2012."

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWAGE SYSTEMS
HOWARD COUNTY HEALTH DEPARTMENT

B Nifan for Peter Beilenson — 2/22/2011
COUNTY HEALTH OFFICER — DATE

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

DATE	DESCRIPTION
	REVISION BLOCK

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Director - Department of Planning and Zoning — Date 2/25/11
Chief, Division of Land Development — Date 2/25/11
Chief, Development Engineering Division — Date 2/10/11

OWNER/DEVELOPER
ANIMAL MEDICAL HOSPITAL
AT GLENWOOD
2465 MARYLAND ROUTE 97
SUITE 7
GLENWOOD, MARYLAND 21738
DR. STUART N. SCHEINBERG D.V.M.
(410) 489-9677

Address Chart

BUILDING NO.	STREET ADDRESS
1. HOSPITAL	2890 McKENDREE ROAD
2. KENNEL	2892 McKENDREE ROAD

PROJECT			SECTION/AREA	PARCEL	LOT
ANIMAL MEDICAL HOSPITAL DOG KENNEL AND PET GROOMING ESTABLISHMENT			N/A	P/O 217	5

PLAT REF.	BLOCK NO.	ZONE	TAX MAP	ELEC. DIST.	CENSUS TR.
19072	11	RR-DEO	14	FOURTH	6040.02

WATER CODE N/A — SEWER CODE N/A

SWM PROFILES AND DETAILS

"REVISED SITE DEVELOPMENT PLAN" ANIMAL MEDICAL HOSPITAL AT GLENWOOD

GREEN MEADOWS
LOT 5

TAX MAP No.: 14 GRID No.: 11
PLAT NO. 19072 P/O PARCEL No.: 217
FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: NOVEMBER 19, 2010

SHEET 12 OF 19 SDP-08-004

I:\2005\05090\dwg\05090 Replacement Sheets SWM PLAN (SHEET 12-15).dwg, 1/26/2011 10:34:15 AM, 36Mylar.pc3

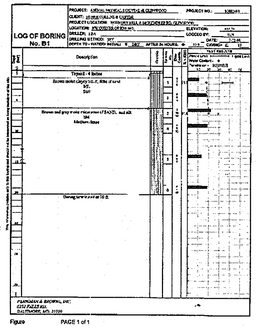
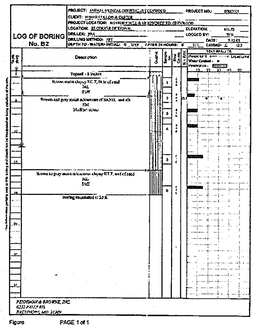


Figure PAGE 1 of 1



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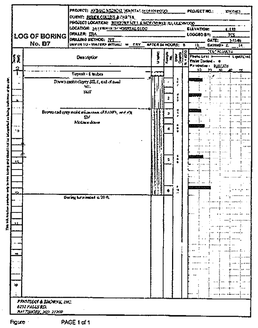
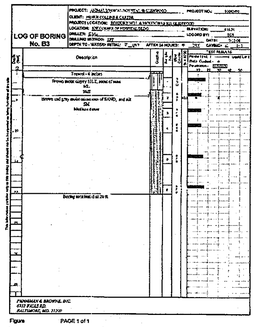


Figure PAGE 1 of 1



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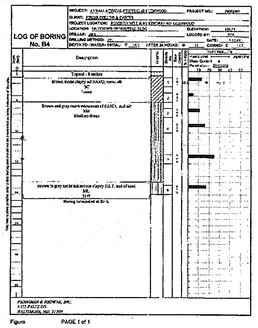


Figure PAGE 1 of 1

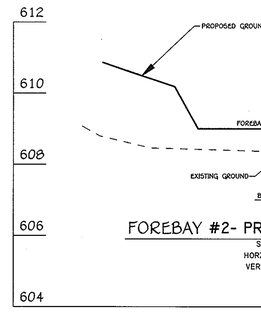


Figure PAGE 1 of 1

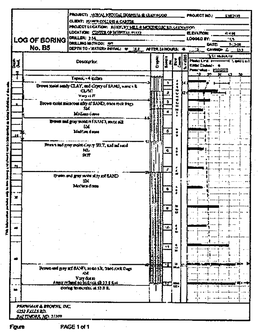


Figure PAGE 1 of 1

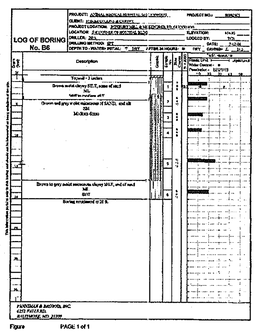
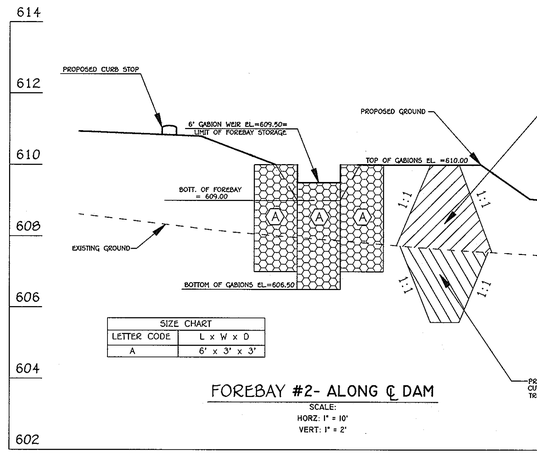


Figure PAGE 1 of 1

Figure PAGE 1 of 1



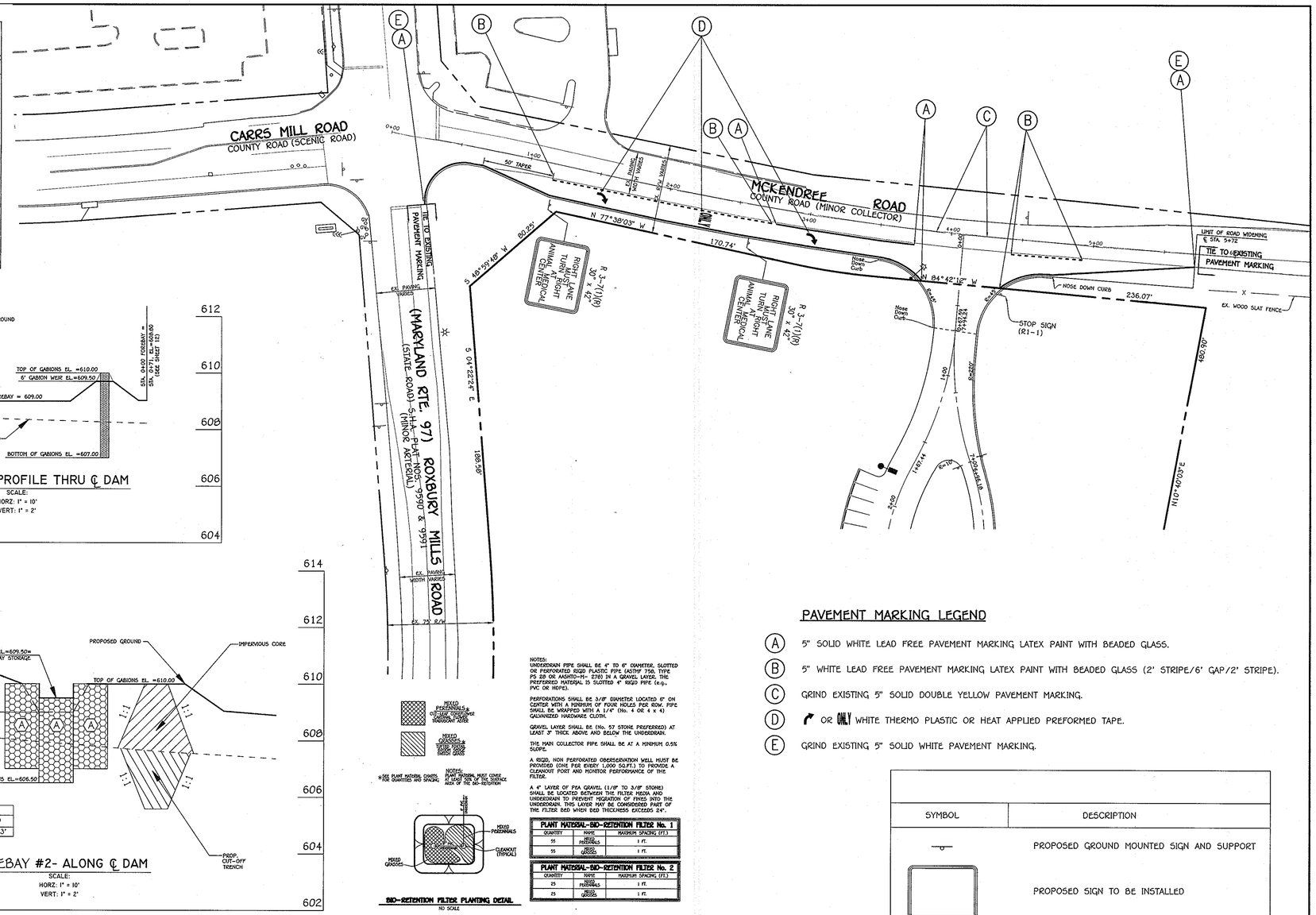
FOREBAY #2- PROFILE THRU ℄ DAM

SCALE:
HORZ: 1" = 10'
VERT: 1" = 2'

SIZE CHART	
LETTER CODE	L x W x D
A	6' x 3' x 3'

FOREBAY #2- ALONG ℄ DAM

SCALE:
HORZ: 1" = 10'
VERT: 1" = 2'



NOTES:
UNDERDRAIN PIPE SHALL BE 4" TO 6" DIAMETER, SLOTTED OR PERFORATED RIGID PLASTIC PIPE (ASTM# 758, TYPE PS 28 OR AASHTO-M- 278) IN A GRAVEL LAYER. THE PREFERRED MATERIAL IS SLOTTED 4" RIGID PIPE (e.g., PVC OR HDPE).

PERFORATIONS SHALL BE 3/8" DIAMETER LOCATED 6" ON CENTER WITH A MINIMUM OF FOUR HOLES PER ROW. PIPE SHALL BE WRAPPED WITH A 1/4" (No. 4 OR 4 x 4) GALVANIZED HARDWARE CLOTH.

GRAVEL LAYER SHALL BE (No. 57 STONE PREFERRED) AT LEAST 3" THICK ABOVE AND BELOW THE UNDERDRAIN.

THE MAIN COLLECTOR PIPE SHALL BE AT A MINIMUM 0.5% SLOPE.

A RIGID, NON PERFORATED OBERSERVATION WELL MUST BE PROVIDED (ONE PER EVERY 1,000 SQ.FT.) TO PROVIDE A CLEANOUT PORT AND MONITOR PERFORMANCE OF THE FILTER.

A 4" LAYER OF PEA GRAVEL (1/8" TO 3/8" STONE) SHALL BE LOCATED BETWEEN THE FILTER MEDIA AND UNDERDRAIN TO PREVENT MIGRATION OF FINES INTO THE UNDERDRAIN. THIS LAYER MAY BE CONSIDERED PART OF THE FILTER BED WHEN BED THICKNESS EXCEEDS 24".

MIXED PERENNIALS & OCTOBER TOWNE GRASS RANDOM AFTER SHRUBS

MIXED GRASSES & OCTOBER TOWNE GRASS RIGHT AFTER SHRUBS

*-SEE PLANT MATERIAL CHARTS FOR QUANTITIES AND SPACING

NOTES:
PLANT MATERIAL MUST COVER AT LEAST 50% OF THE SURFACE AREA OF THE BIO-RETENTION

BIO-RETENTION FILTER PLANTING DETAIL
NO SCALE

PLANT MATERIAL-BIO-RETENTION FILTER No. 1		
QUANTITY	NAME	MAXIMUM SPACING (FT.)
55	MIXED PERENNIALS	1 ft.
55	MIXED GRASSES	1 ft.

PLANT MATERIAL-BIO-RETENTION FILTER No. 2		
QUANTITY	NAME	MAXIMUM SPACING (FT.)
25	MIXED PERENNIALS	1 ft.
25	MIXED GRASSES	1 ft.

PAVEMENT MARKING LEGEND

(A) 5" SOLID WHITE LEAD FREE PAVEMENT MARKING LATEX PAINT WITH BEADED GLASS.

(B) 5" WHITE LEAD FREE PAVEMENT MARKING LATEX PAINT WITH BEADED GLASS (2' STRIPE/6' GAP/2' STRIPE).

(C) GRIND EXISTING 5" SOLID DOUBLE YELLOW PAVEMENT MARKING.

(D) ↱ OR ONLY WHITE THERMO PLASTIC OR HEAT APPLIED PREFORMED TAPE.

(E) GRIND EXISTING 5" SOLID WHITE PAVEMENT MARKING.

SYMBOL	DESCRIPTION
	PROPOSED GROUND MOUNTED SIGN AND SUPPORT
	PROPOSED SIGN TO BE INSTALLED

NOTES:
THERE ARE NO UNDER DRAINS ASSOCIATED WITH THIS FACILITY.

GRAVEL LAYER SHALL BE ROUNDED BANK GRAVEL (ASTM D 448, 4, 5, OR 6 STONE) LOCATED BELOW THE PROPOSED 3" THICKNESS OF WETLAND MULCH.

THE PROPOSED INLET I-1 WILL FUNCTION AS A OVERFLOW FOR THIS FACILITY.

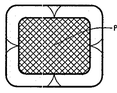
A RIGID, NON PERFORATED OBERSERVATION WELL MUST BE PROVIDED (ONE PER EVERY 1,000 SQ.FT.) TO PROVIDE A CLEANOUT PORT AND MONITOR PERFORMANCE OF THE FILTER.

THE STONE FILTER AREA IS 48" IN THICKNESS TO STORE THE ESDV VOLUME REQUIRED MEASURED FROM THE THROAT OPENING OF THE PROPOSED INLET.

MIXED PERENNIALS & OCTOBER TOWNE GRASS RIGHT AFTER SHRUBS
MAPATO CORPORATION CONTINUOUS GROW-HEAD YELLOW WATER-JET BLUE MOSS MIX

*-SEE PLANT MATERIAL CHARTS FOR QUANTITIES AND SPACING

NOTES:
PLANT MATERIAL MUST COVER AT LEAST 50% OF THE SURFACE AREA OF THE SUBMERGED GRAVEL WETLAND.

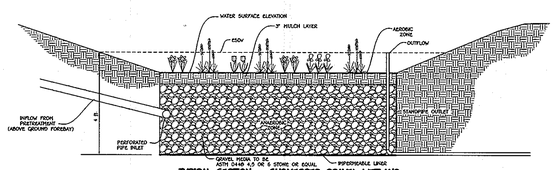


SUBMERGED GRAVEL WETLAND PLANTING
NO SCALE

PLANT MATERIAL-SUBMERGED GRAVEL WETLAND-FILTER No. 1		
QUANTITY	NAME	MAXIMUM SPACING (FT.)
61	MIXED PERENNIALS	1 ft.

PLANT MATERIAL-SUBMERGED GRAVEL WETLAND-FILTER No. 2		
QUANTITY	NAME	MAXIMUM SPACING (FT.)
109	MIXED PERENNIALS	1 ft.

NOTE: THE PURPOSE OF THIS PLAN IS TO REPLACE THE SWM POND WITH THE NEW CHAPTER 5 STANDARDS AND REGULATIONS, ENLARGE THE KENNEL/GROOMING BUILDING BY 20' IN LENGTH AND LABEL THE ANIMAL MEDICAL HOSPITAL AS FUTURE.



TYPICAL SECTION - SUBMERGED GRAVEL WETLAND
NO SCALE

"Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 13204, Expiration Date: November 3, 2012."

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWAGE SYSTEMS
HOWARD COUNTY HEALTH DEPARTMENT

B Wilson for Peter Bickerson 2/22/2011
COUNTY HEALTH OFFICER DATE

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

DATE	DESCRIPTION
	REVISION BLOCK

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Director - Department of Planning and Zoning	2/25/11 Date
Chief, Division of Land Development	2/25/11 Date
Chief, Development Engineering Division	2/10/11 Date

OWNER/DEVELOPER
ANIMAL MEDICAL HOSPITAL
AT GLENWOOD
2465 MARYLAND ROUTE 97
SUITE 7
GLENWOOD, MARYLAND 21738
DR. STUART N. SCHEINBERG D.V.M.
(410) 489-9677

Address Chart

BUILDING NO.	STREET ADDRESS
1. HOSPITAL	2890 McKENDREE ROAD
2. KENNEL	2892 McKENDREE ROAD

PROJECT		SECTION/AREA	PARCEL	LOT
ANIMAL MEDICAL HOSPITAL DOG, KENNEL AND PET GROOMING ESTABLISHMENT		N/A	P/O 217	5

PLAT REF.	BLOCK NO.	ZONE	TAX MAP	ELEC. DIST.	CENSUS TR.
19072	11	RR-DEO	14	FOURTH	6040.02

WATER CODE N/A SEWER CODE N/A

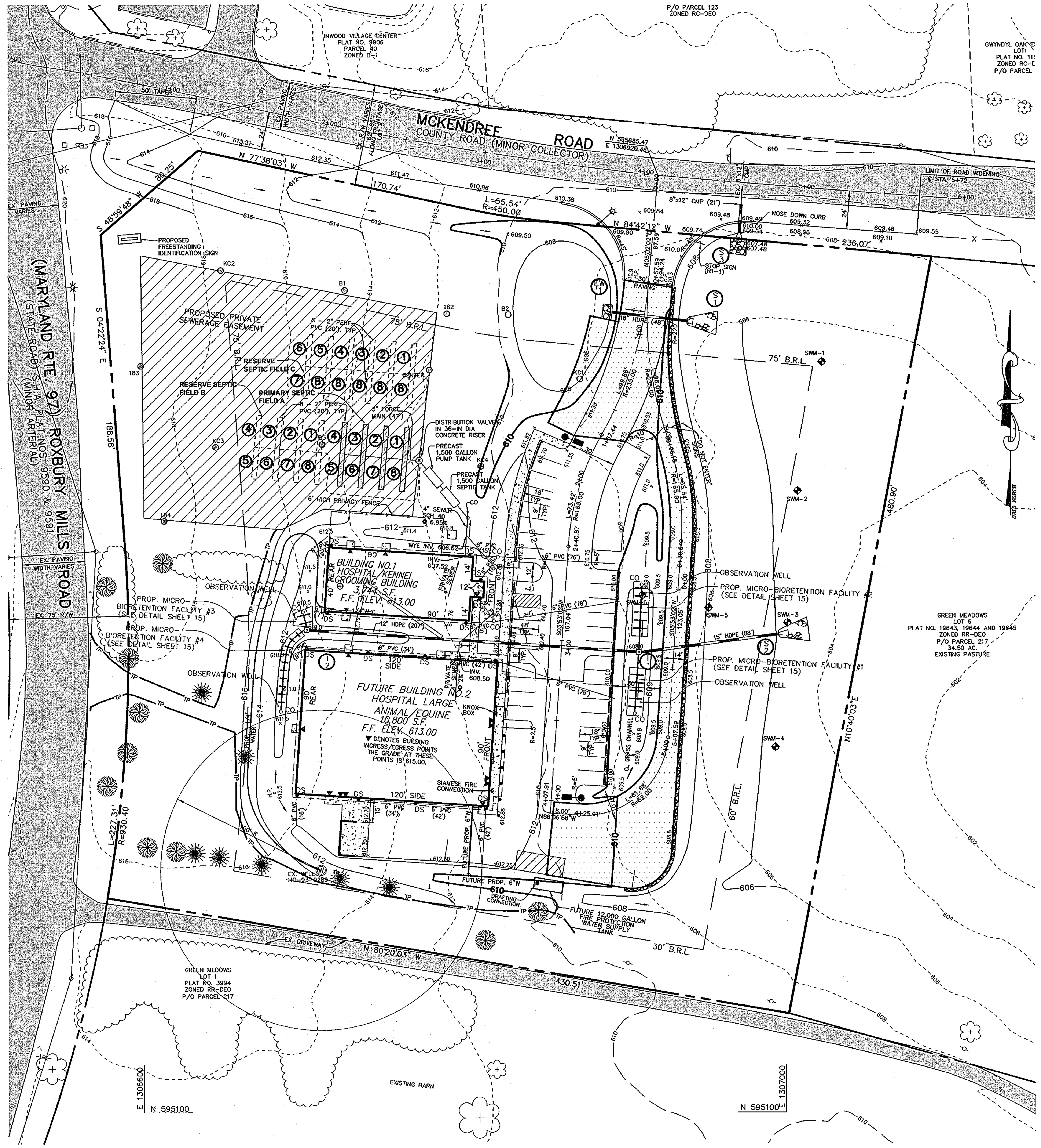
PAVEMENT MARKING PLAN, SOIL BORINGS & FOREBAY #2 PROFILES

"REVISED SITE DEVELOPMENT PLAN"
ANIMAL MEDICAL HOSPITAL
AT GLENWOOD
GREEN MEADOWS
LOT 5

TAX MAP No.: 14 GRID No.: 11
PLAT NO. 19072 P/O PARCEL No.: 217
FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: 1" = 40' DATE: JANUARY 26, 2011

SHEET 13 OF 19 SDP-08-004

I:\2005\05090\dwg\05090 REPLACEMENT PAVEMENT MARKING PLAN (SHEET 13).dwg, 1/26/2011 10:38:35 AM, 36 Mylar.pc3



SEPTIC DESIGN PLAN

SCALE: 1" = 40'-0"

DESIGN NOTES

DESIGN FLOW
Design Flow = 1,000 GPD

SEPTIC TANK DESIGN
Design Volume = 1.5*Q = 1.5*1,000 GPD = 1,500 GAL (below inlet pipe invert)

PRECAST CONCRETE SPECIFICATIONS
Each Precast concrete septic tank shall be certified by a Professional Engineer to support earth load as presented on plans and to prevent buoyancy with ground water at finished grade.

TRENCH SPECIFICATIONS
All pipes within trench shall be 2" PVC (Schedule 26) as shown on the plans. The pipe shall be perforated in the field with 5/16" holes drilled every 6 ft as shown on the detail Sheet 18.

Trench filter fabric shall be non-woven polyester fabric, needle pinched, 6 oz. per square yard minimum placed within trench as shown on the details.

Trench gravel shall meet the requirements of SHA #57 stone placed within trench as shown on the details.

PIPING SPECIFICATIONS
All sanitary piping shall be PVC Schedule 26. All material shall conform to Howard County Design Manual Standard Specifications and Details for Construction.

GATE VALVES
4" and 6" gate valves shall be Resilient seat "Baltimore Standard, open right" furnished with a non-rising stem and roadway box. One Tee-handled operating wrench shall be provided by the gate valve manufacturer to operate the gate valves from finished grade (with adequate length to operate from finished grade).

MILESTONES OF CONSTRUCTION
The following Milestones of Construction must be approved by Michael Davis / the Howard County Department of Health (410-313-1771). The Engineer shall be contacted during the following phases of construction for system stakeout by registered surveyor.

a. Initial system stakeout by registered surveyor;
b. Open trench inspection;
c. Septic Tank installation;
d. Dosing Pump Station installation;
e. All tanks must be watertight to the satisfaction of Howard County Department of Health. Contractor shall supply test water and provide forty-eight (48) hours notice to Health Department for water tightness testing.

Prior to installation, a preconstruction meeting must be scheduled to review the installation. The on-site sewage disposal system must be professionally staked for the meeting. The meeting shall include:

a. Michael Davis
Howard County Department of Health
(410) 313-1771
b. On-site Disposal System Installation Contractor
c. General Contractor for the Project

Any changes to the approved plan must be presented to the Department of Health and the Department of Public Works (Public Works Managed System) by the Engineer (McCrone, Inc. (410) 267-6947).

Prior to installation of any component of the system, proper permits must be obtained from:

a. Department of Health, Septic System Installation Permit

DESIGN NOTES

ANIMAL MEDICAL HOSPITAL SHARED SEPTIC SYSTEM
DESIGN CALCULATIONS FOR SEPTIC SYSTEM

Primary Field A and Reserve Field B			
Maximum Daily Flow	1,000	GPD	
Standard Application Rate =	0.80	gpd/SF	
Standard Effective Trench* Area =	1250	SF	
Trench Width =	3.00	feet	
Septic Tank Size =	1,500	gal	
Deep Trench Length			
w =	3.00	feet	
d =	5.00	feet	
(w+2)/(w+1+2d) =	0.357		
Design Length =	149	feet	
Number of Laterals/Trenches (40 ft) =	4	or 8 20-ft Laterals	
Calculate min separation between deep trenches		13	feet
* Total Trench Length = Effective Trench Length + 4.5 ft Length for Observation			
Pipe Installation (see trench detail)			
Reserve Field C			
Maximum Daily Flow	1,000	GPD	
Standard Application Rate =	0.80	gpd/SF	
Standard Effective Trench* Area =	1250	SF	
Trench Width =	3.00	feet	
Septic Tank Size =	1,500	gal	
Deep Trench Length			
w =	3.00	feet	
d =	3.00	feet	
(w+2)/(w+1+2d) =	0.500		
Design Length =	208	feet	
Number of Trenches (40 ft) =	6	or 12 20-ft Laterals	
Calculate min separation between deep trenches		9	feet
* Total Trench Length = Effective Trench Length + 4.5 ft Length for Observation			
Pipe Installation (see trench detail)			

TRENCH INVERT ELEVATIONS CHART

Trench Number	Ground Elev., ft	Trench Inv., ft	Good Soil Top Elev., ft	Good Soil Bot Elev., ft	Trench Bottom, ft	Trench Depth, ft
Primary Field A Trench #1	612.00	610.50	609.00	598.00	604.00	8.00
Primary Field A Trench #2	612.50	610.50	609.50	598.50	604.50	8.00
Primary Field A Trench #3	613.00	610.50	610.00	599.00	605.00	8.00
Primary Field A Trench #4	613.50	610.50	610.50	599.50	605.50	8.00
Primary Field A Trench #5	613.50	610.50	610.50	599.50	605.50	8.00
Primary Field A Trench #6	613.00	610.50	610.00	599.00	605.00	8.00
Primary Field A Trench #7	612.50	610.50	609.50	598.50	604.50	8.00
Primary Field A Trench #8	612.00	610.50	609.00	598.00	604.00	8.00
Reserve Field B Trench #1	614.80	613.30	611.80	600.80	606.80	8.00
Reserve Field B Trench #2	615.50	613.30	612.50	601.50	607.50	8.00
Reserve Field B Trench #3	616.20	613.30	613.20	602.20	608.20	8.00
Reserve Field B Trench #4	616.50	613.30	613.50	602.50	608.50	8.00
Reserve Field B Trench #5	616.50	613.30	613.50	602.50	608.50	8.00
Reserve Field B Trench #6	616.20	613.30	613.20	602.20	608.20	8.00
Reserve Field B Trench #7	615.50	613.30	612.50	601.50	607.50	8.00
Reserve Field B Trench #8	614.80	613.30	611.80	600.80	606.80	8.00
Reserve Field C Trench #1	612.00	610.50	607.00	600.00	604.000	8.00
Reserve Field C Trench #2	612.50	610.50	607.50	600.50	604.500	8.00
Reserve Field C Trench #3	613.00	610.50	608.00	601.00	605.000	8.00
Reserve Field C Trench #4	613.50	610.50	608.50	601.50	605.500	8.00
Reserve Field C Trench #5	614.80	610.50	609.80	602.80	606.800	8.00
Reserve Field C Trench #6	615.50	610.50	610.50	603.50	607.500	8.00
Reserve Field C Trench #7	615.50	610.50	610.50	603.50	607.500	8.00
Reserve Field C Trench #8	614.80	610.50	609.80	602.80	606.800	8.00
Reserve Field C Trench #9	613.50	610.50	608.50	601.50	605.500	8.00
Reserve Field C Trench #10	613.00	610.50	608.00	601.00	605.000	8.00
Reserve Field C Trench #11	612.50	610.50	607.50	600.50	604.500	8.00
Reserve Field C Trench #12	612.00	610.50	607.00	600.00	604.000	8.00

TEST RESULTS

CENTER – 1" IN (5) MIN.–GOOD SOILS FROM 5' TO 12'–0"

KC3 – 1" IN (7) MIN.–GOOD SOILS FROM 7' TO 13'–5"

B3 – 1" IN (9) MIN.–GOOD SOILS FROM 3' TO 14'–0"

PUMP STATION CALCULATIONS

ANIMAL MEDICAL HOSPITAL AT GLENWOOD PUMP STATION

	DESIGN					
II.	DESIGN FLOW (BASED ON CALCULATIONS SHOWN ON SHEET 18)					
				USE	64	GPM
III.	SIZE WET WELL					
	MINIMUM PUMPING CYCLE IS 7 MINUTES					
	SIZE WET WELL FOR 6 CYCLES/HR t =	10	MINUTES			
	V= (t*D)/4			V=WET WELL VOLUME (GAL)		
				Q=INFLOW TO WETWELL (GPM)		
	V=	160	GAL	D=RATED PUMP DELIVERY (GPM)		
	V=	21.39	CU FT	t=TIME BETWEEN PUMP STARTS (MIN)		
	WETWELL LENGTH =	12.25	FT			
	WETWELL WIDTH =	4.25	FT			
	VOLUME PER FOOT OF WET WELL =	389	GAL/VF			
	OPERATING DEPTH REQUIRED=	0.41	VF	USE	0.5	FT
	=	6.00	IN			
IV.	CHECK CYCLE TIME					
	THE SHORTEST OPERATING CYCLE OCCURS WHEN SEWAGE IS FLOWING INTO THE WET WELL AT ONE HALF OF PUMP CAPACITY.					
	DIST BETW. PUMP OFF & LEAD ON=	0.5	FT			
	Q OUT=	64	GPM			
	Q IN=	32	GPM			
	VOLUME=	195	GAL			
	TIME TO FILL WETWELL=	6.09	MIN			
	TIME TO EMPTY WETWELL=	6.09	MIN			
	TOTAL TIME EACH CYCLE=	12.17	MIN	OK		
	=	4.93	CYCLES/HOUR			
V.	FLOAT SETTINGS					
	INVERT OF INCOMING SEWER=	604.66	FT			
	STORAGE CAPACITY = 1,000 GAL	2.60	FT			
	ALARM ELEVATION=	602.34	FT			
	PUMP 2 ON ELEVATION=	601.84	FT			
	PUMP 1 ON ELEVATION=	601.34	FT			
	SHUT OFF ELEVATION=	600.84	FT			
					1.02	FT
	BOTTOM ELEVATION=	599.83	FT			
VI.	DETERMINE TANK DEPTH					
	GROUND ELEVATION=	611.50	FT			
	BOTTOM ELEVATION=	599.83	FT			
	STATION DEPTH=	11.67	FT			
VII.	SIZE FORCE MAIN					
	TRY	3	IN. FORCE MAIN			
	Q=	64	GPM			
	=	0.14	CFS			
	A=	0.05	S F			
	V=	2.90	FPS	OK		

STRUCTURES ELEVATIONS CHART

Structure	Ground Elev., ft	Pipe Length, ft	Slope	Inv. In	Inv. Out
Building					609.00
		110.62	0.028		
Septic Tank	611.00			605.16	604.91
		3.00	*0.015*		
Pump Tank	611.50			604.66	N/A

THE PURPOSE OF THIS PLAN IS TO REVISE THE SEPTIC SYSTEM.

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWAGE SYSTEMS
HOWARD COUNTY HEALTH DEPARTMENT

for COUNTY HEALTH OFFICER — DATE 7/22/11

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STATE OF MARYLAND — PROFESSIONAL ENGINEER — No. 17737 — 6.21.2011

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 17737, Expiration Date:3/29/12.

DATE	DESCRIPTION
4/18/11	REPLACEMENT SHEET
	REVISION BLOCK

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Director – Department of Planning and Zoning	Date 7/27/11
Chief, Division of Land Development	Date 7-26-11
Chief, Development Engineering Division	Date 7-14-11

OWNER/DEVELOPER
ANIMAL MEDICAL HOSPITAL
AT GLENWOOD
2465 MARYLAND ROUTE 97
SUITE 7
GLENWOOD, MARYLAND 21738
DR. STUART N. SCHEINBERG D.V.M.
(410) 489-9677

Address Chart

BUILDING NO.	STREET ADDRESS
1. HOSPITAL	2890 McKENDREE ROAD
2. KENNEL	2892 McKENDREE ROAD

PROJECT		SECTION/AREA	PARCEL	LOT
ANIMAL MEDICAL HOSPITAL DOG KENNEL AND PET GROOMING ESTABLISHMENT		N/A	P/O 217	5

PLAT REF.	BLOCK NO.	ZONE	TAX MAP	ELEC. DIST.	CENSUS TR.
19072	11	RR-DEO	14	FOURTH	6040.02

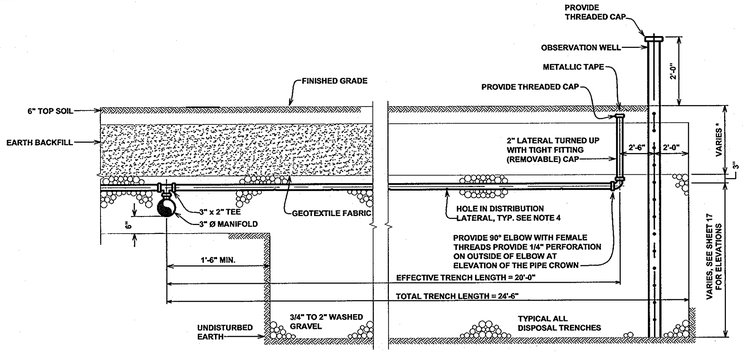
WATER CODE N/A — SEWER CODE N/A

SEPTIC SYSTEM DESIGN PLAN

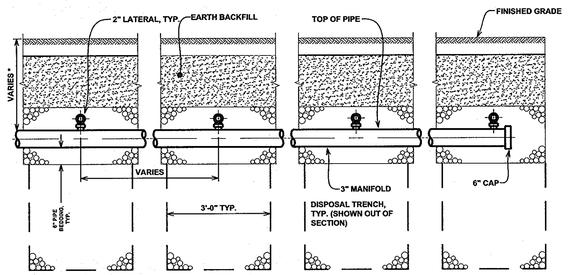
"REVISED SITE DEVELOPMENT PLAN"
ANIMAL MEDICAL HOSPITAL
AT GLENWOOD
GREEN MEADOWS
LOT 5

TAX MAP No.: 14 GRID No.: 11
PLAT NO. 19072 P/O PARCEL No.: 217
FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: 1" = 40' DATE: FEBRUARY 11, 2007

SHEET 14 OF 19 SDP–08–004



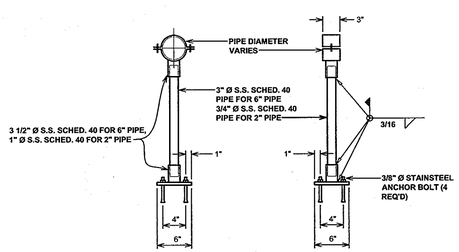
* SOIL COVER VARIES FOR EACH LATERAL WITH A MINIMUM COVER OF 2.0 FEET. THE CONTRACTOR SHALL EXCAVATE TRENCHES AS SPECIFIED IN TRENCH ELEVATION SUMMARY CHART ON SHEET 17. HOWEVER THE CONTRACTOR MAY BE DIRECTED TO CHANGE THE DEPTH OF TRENCH DUE TO CAVITY MATERIALS AND INTERMITTENT RESTRICTIVE LAYERS.



* SOIL COVER VARIES FOR EACH MANIFOLD WITH A MINIMUM COVER OF 3.0 FEET.

NOTES:

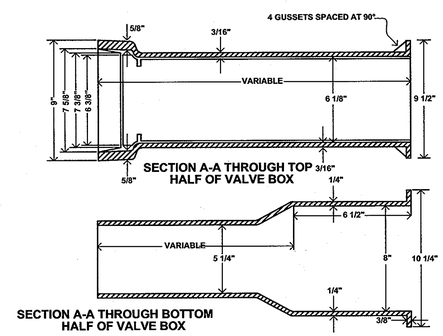
1. PROVIDE 2" THREADED CAPS AT ENDS OF ALL DISTRIBUTION LATERALS.
2. MANIFOLD PIPE AND DISTRIBUTION LATERALS TO BE INSTALLED ON LEVEL GRADE, ELEVATIONS PER TRENCH ELEVATION SUMMARY CHART ON SHEET 17.
3. BOTTOM OF TRENCH TO BE EXCAVATED ON LEVEL GRADE.
4. CONTRACTOR TO DRILL HOLES IN DISTRIBUTION LATERALS DOWNWARD AS SPECIFIED IN LATERAL SIZING SUMMARY ON THIS SHEET EXCEPT FOR LAST HOLE AS NOTED ON TYPICAL LATERAL SECTION.
5. FOR TESTING THE CONTRACTOR TO PROVIDE FOUR THREADED CAP FITTINGS WITH A PRESSURE GAGE WHICH READS BETWEEN 0 AND 60 FEET.
6. THE CONTRACTOR TO INSTALL ISOLATION VALVE ON EACH LATERAL.

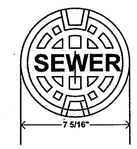


PIPE SUPPORT DETAIL

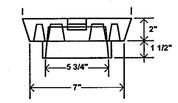
NOT TO SCALE

SPECIFICATIONS:
1. CAST IRON-SLIDING TYPE MIN. T.S. 30,000 PSI
2. TOP SECTION- 16" BOTTOM SECTION 16"
3. BOXES ADJUSTABLE 34" TO 46"
4. TOP SECTION- 16" BOTTOM SECTION 30" MIN. WT. PER BOX- 100 LBS





PLAN



SECTION

ADJUSTABLE VALVE BOX ROUND HEAD SLIDING TYPE

NOT TO SCALE

STEP 1 LAYOUT NETWORK - A

STEP 2 SELECT PERFORATION SIZE AND SPACING

TRY 1:

PERFORATION SIZE= SEE STEP 4
SPACING= SEE STEP 4

STEP 3 SELECT LATERAL DIAMETER

LATERAL DIAMETER= 2 in.

	LATERAL LENGTH=		LATERAL INV. ELEV.=
Trench #1	20.0	ft.	610.5
Trench #2	20.0	ft.	610.5
Trench #3	20.0	ft.	610.5
Trench #4	20.0	ft.	610.5
Trench #5	20.0	ft.	610.5
Trench #6	20.0	ft.	610.5
Trench #7	20.0	ft.	610.5
Trench #8	20.0	ft.	610.5

STEP 4 CALCULATE LATERAL DISCHARGE RATE (Elev = 610.5)

CALCULATE PERFORATION DISCHARGE RATE

q=11.79(d^2)(h^.5)
overall system grade 616.3 ft.

TRENCH 1-8:
d=perf. diameter= 0.31

lateral invert= 610.5 ft.
grade line= 613.5 ft. - throttle valve (2.8 ft)
h=in-line pres.= 3 ft.

q= 1.99 gpm

CALCULATE PERFORATION DISCHARGE RATE
TRENCH #1-8
NUMBER OF HOLES = 4
SPACING= 5.00

TRENCH 1-3

HOLE #	IN LINE PRESSURE	H	Q	Q TOTAL
1	3.00	0.00	1.99	1.99
2	3.00	0.00	1.99	3.99
3	3.00	0.01	2.00	5.98
4	3.01	0.01	2.00	7.98

Q=qN
N=no. of perf= 4.00

Flow per Lateral= 7.98 gpm
Total Flow= 64.00 gpm

STEP 1 LAYOUT NETWORK - B

STEP 2 SELECT PERFORATION SIZE AND SPACING

TRY 1:

PERFORATION SIZE= SEE STEP 4
SPACING= SEE STEP 4

STEP 3 SELECT LATERAL DIAMETER

LATERAL DIAMETER= 2 in.

	LATERAL LENGTH=		LATERAL INV. ELEV.=
Trench #1	20.0	ft.	615.0
Trench #2	20.0	ft.	615.0
Trench #3	20.0	ft.	615.0
Trench #4	20.0	ft.	615.0
Trench #5	20.0	ft.	615.0
Trench #6	20.0	ft.	615.0
Trench #7	20.0	ft.	615.0
Trench #8	20.0	ft.	615.0

STEP 4 CALCULATE LATERAL DISCHARGE RATE (Elev = 610.5)

CALCULATE PERFORATION DISCHARGE RATE

q=11.79(d^2)(h^.5)
overall system grade 616.3 ft.

TRENCH 1-8:
d=perf. diameter= 0.31

lateral invert= 613.3 ft.
grade line= 616.3 ft.
h=in-line pres.= 3 ft.

q= 1.99 gpm

CALCULATE PERFORATION DISCHARGE RATE
TRENCH #1-8
NUMBER OF HOLES = 4
SPACING= 6.00

TRENCH 1-8

HOLE #	IN LINE PRESSURE	H	Q	Q TOTAL
1	3.00	0.00	1.99	1.99
2	3.00	0.00	1.99	3.99
3	3.00	0.01	2.00	5.98
4	3.01	0.01	2.00	7.98

Q=qN
N=no. of perf= 4.00

Flow per Lateral= 7.98 gpm
Total Flow= 64.00 gpm

THE PURPOSE OF THIS PLAN IS TO REVISE THE SEPTIC SYSTEM.

STEP 1 LAYOUT NETWORK - C

STEP 2 SELECT PERFORATION SIZE AND SPACING

TRY 1:

PERFORATION SIZE= SEE STEP 4
SPACING= SEE STEP 4

STEP 3 SELECT LATERAL DIAMETER

LATERAL DIAMETER= 2 in.

	LATERAL LENGTH=		LATERAL INV. ELEV.=
Trench #1	20.0	ft.	610.5
Trench #2	20.0	ft.	610.5
Trench #3	20.0	ft.	610.5
Trench #4	20.0	ft.	610.5
Trench #5	20.0	ft.	610.5
Trench #6	20.0	ft.	610.5
Trench #7	20.0	ft.	610.5
Trench #8	20.0	ft.	610.5
Trench #9	20.0	ft.	610.5
Trench #10	20.0	ft.	610.5
Trench #11	20.0	ft.	610.5
Trench #12	20.0	ft.	610.5

STEP 4 CALCULATE LATERAL DISCHARGE RATE (Elev = 610.5)

CALCULATE PERFORATION DISCHARGE RATE

q=11.79(d^2)(h^.5)
overall system grade 616.3 ft.

TRENCH 1-12
d=perf. diameter= 0.31

lateral invert= 610.5 ft.
grade line= 613 ft. - throttle valve (3.3 ft)
h=in-line pres.= 2.5 ft.

q= 1.79 gpm

CALCULATE PERFORATION DISCHARGE RATE
TRENCH #1-12
NUMBER OF HOLES = 3
SPACING= 10.00

TRENCH 1-12

HOLE #	IN LINE PRESSURE	H	Q	Q TOTAL
1	2.50	0.00	1.79	1.79
2	2.50	0.00	1.79	3.58
3	2.51	0.01	1.79	5.38

Q=qN
N=no. of perf= 3.00

Flow per Lateral= 5.38 gpm
Total Flow= 65.00 gpm

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWAGE SYSTEMS
HOWARD COUNTY HEALTH DEPARTMENT

For COUNTY HEALTH OFFICER — 7/22/11 DATE

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STATE OF MARYLAND — SCOTT MICHAEL SCHEINBERG — No. 17737 — PROFESSIONAL ENGINEER
6.21.2011

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 17737, Expiration Date:3/29/12.

DATE	DESCRIPTION
4/18/11	REPLACEMENT SHEET

REVISION BLOCK

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Director – Department of Planning and Zoning — 7/27/11 Date
Chief, Division of Land Development — 7-26-11 Date
Chief, Development Engineering Division — 7.14.11 Date

OWNER/DEVELOPER
ANIMAL MEDICAL HOSPITAL
AT GLENWOOD
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SUITE 7
GLENWOOD, MARYLAND 21738
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(410) 489-9677

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1. HOSPITAL	2890 McKENDREE ROAD
2. KENNEL	2892 McKENDREE ROAD

PROJECT		SECTION/AREA	PARCEL	LOT
ANIMAL MEDICAL HOSPITAL DOG KENNEL AND PET GROOMING ESTABLISHMENT		N/A	P/O 217	5

PLAT REF.	BLOCK NO.	ZONE	TAX MAP	ELEC. DIST.	CENSUS TR.
19072	11	RR-DEO	14	FOURTH	6040.02

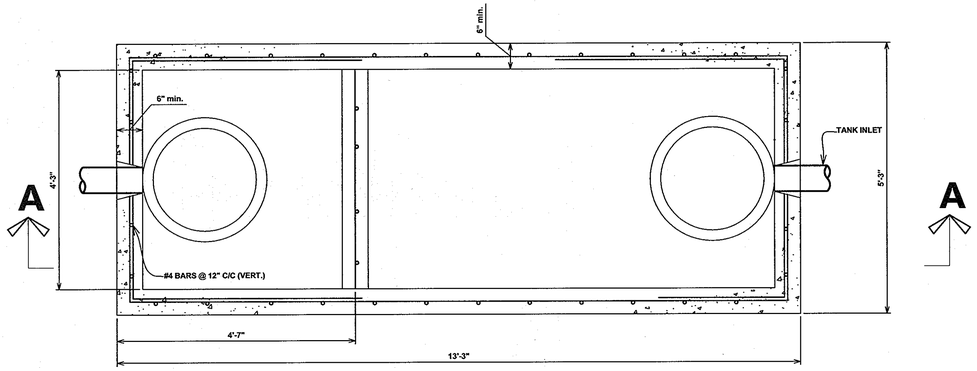
WATER CODE N/A — SEWER CODE N/A

SEPTIC TRENCH DESIGN AND DETAILS

"REVISED SITE DEVELOPMENT PLAN"
ANIMAL MEDICAL HOSPITAL
AT GLENWOOD
GREEN MEADOWS
LOT 5

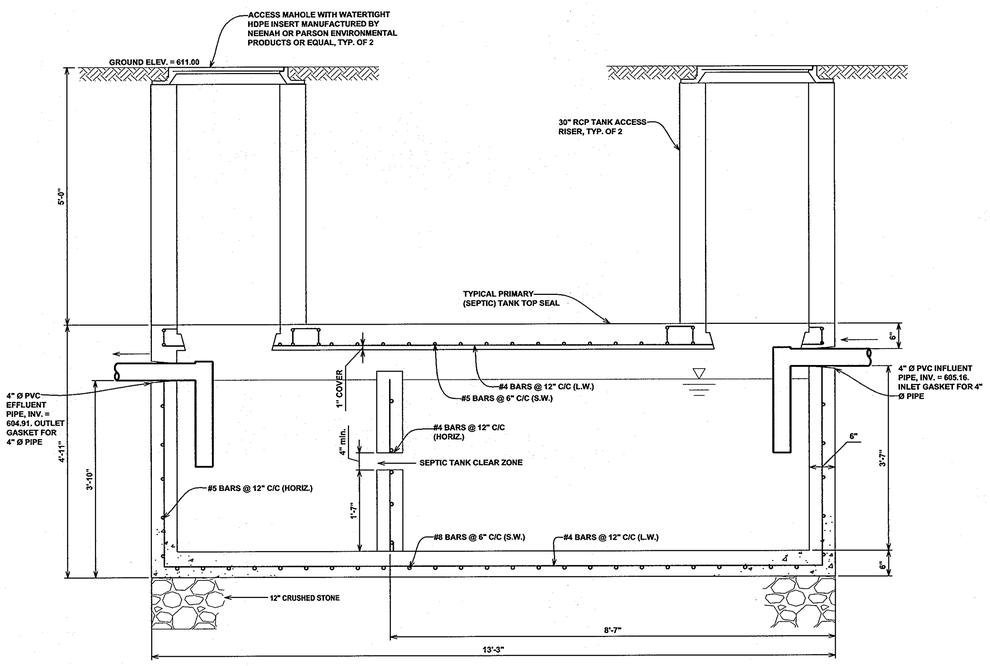
TAX MAP No.: 14 GRID No.: 11
PLAT NO. 19072 P/O PARCEL No.: 217
FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: 1" = 40' DATE: FEBRUARY 11, 2007

SHEET 15 OF 19 SDP-08-004



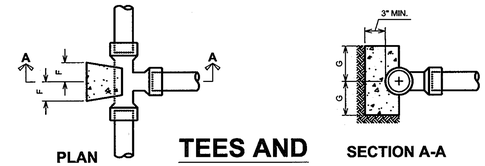
1,500 GAL SEPTIC TANK PLAN

SCALE: 3/4" = 1'-0"

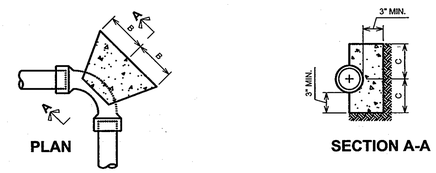


1,500 GAL SEPTIC TANK SECTION A-A

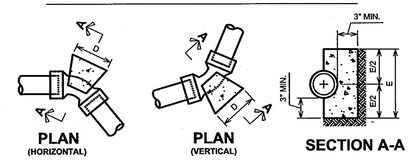
SCALE: 3/4" = 1'-0"



TEES AND WYES



90° HORIZONTAL BENDS



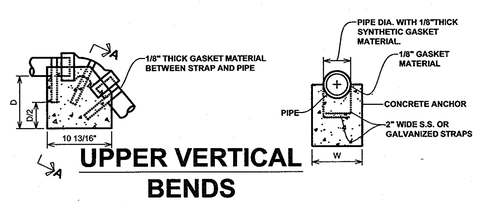
90° HORIZONTAL BENDS

BUTTRESS DIMENSIONS						
PIPE SIZE	B	C	D	E	F	G
1 1/2" OR 2"	4 1/2"	4 1/2"	5"	9"	4 1/2"	4"
2"	5"	5"	7"	7"	5"	5"
2 1/2"	5"	5"	7"	7"	5"	5"
3"	6"	6"	9"	9"	6"	6"

NOTES:
1. FC=3000 P.S.I. @ 28 DAYS
2. CARRY ALL BEARING SURFACES TO UNDISTURBED GROUND OR FIRM SUBGRADE.
3. BUTTRESS SIZED FOR 160 P.S.I. AND SOIL WITH C = 2000 P.S.I.

11 1/4°, 22 1/2°, 45° HORIZONTAL AND LOWER VERTICAL BENDS

NOT TO SCALE



UPPER VERTICAL BENDS

NOT TO SCALE

BEND		SIZE IN INCHES		
		1 1/4", 1 1/2"	2", 2-1/2"	3"
11 1/4°	L	12	15	18
	W	10	12	15
	D	10	15	15
22 1/2°	L	15	20	20
	W	15	20	20
	D	12	12	18
45°	L	20	24	24
	W	20	20	24
	D	12	20	24

SEPTIC TANK NOTES:

1. THE CONTRACTOR SHALL PROVIDE EFFLUENT FILTER FOR SEPTIC TANK IN WHICH ONE CARTRIDGE OFF OF THE TEE CAN HANDLE THE EXPECTED FLOW; THE EFFLUENT FILTER SHALL BE MODEL A300-12x36-VC AS MANUFACTURED BY ZABEL OR MODEL FTS1254-36M AS MANUFACTURED BY ORENCO SIZED TO HANDLE UP TO 5,000 GPD.
2. THE CONTRACTOR SHALL INSTALL "STAND-OFF" SUPPORTS FOR TAIL ENDS OF INLET AND OUTLET TEES AND ANCHOR THEM AGAINST SIDEWALLS OF SEPTIC TANK.
3. SEPTIC TANK SHALL BE AS MANUFACTURED BY OLDE CASTLE PRECAST, FREDERICKSBURG, VA (540-295-1566) OR APPROVED EQUAL.

THE PURPOSE OF THIS PLAN IS TO REVISE THE SEPTIC SYSTEM.

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWAGE SYSTEMS
HOWARD COUNTY HEALTH DEPARTMENT

for COUNTY HEALTH OFFICER — 7/22/11 DATE

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Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 17737, Expiration Date:3/29/12.

STATE OF MARYLAND — ROBERT J. BUTLER — No. 17737 — PROFESSIONAL ENGINEER — 6.21.2011

DATE	DESCRIPTION
4/18/11	REPLACEMENT SHEET

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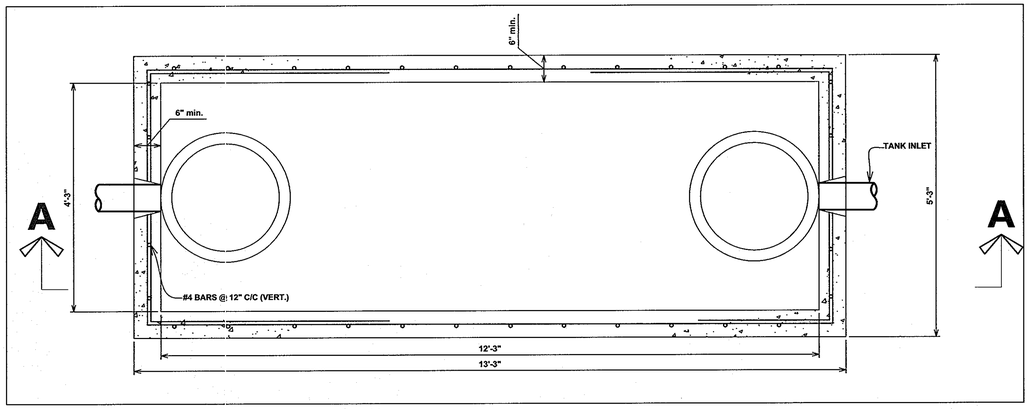
SCALE: 1" = 40' DATE: FEBRUARY 11, 2007

SHEET 16 OF 19 SDP-08-004

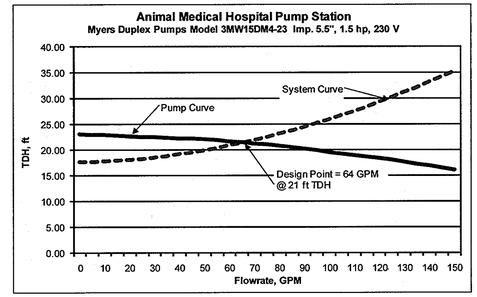


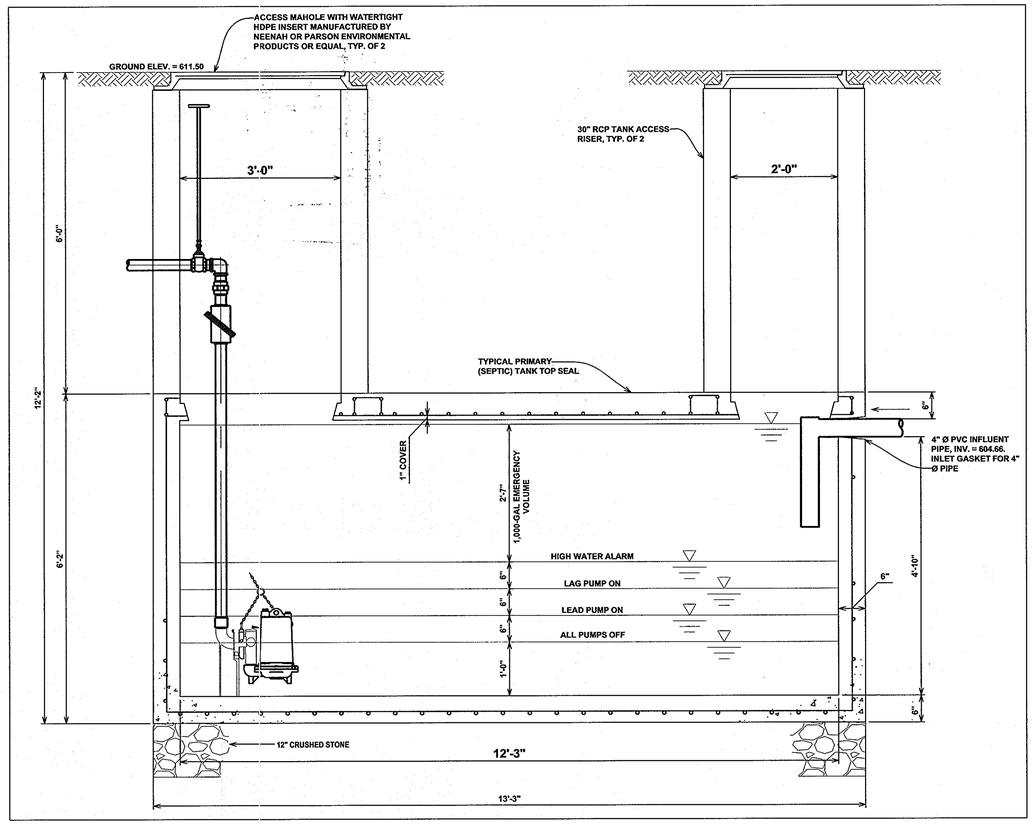
1,500 GAL PUMP TANK PLAN

SCALE: 3/4" = 1'-0"

NOTES:

1) CONTRACTOR SHALL VERIFY THE SOIL BEARING CAPACITY PRIOR TO INSTALLATION OF WET WELL.
2) CONTRACTOR SHALL PROVIDE EXTRA CABLE LENGTH TO ENABLE THE HOIST WINCH TO BE THREADED WITH THE CABLE FOR PUMP REMOVAL.





1,500 GAL PUMP TANK SECTION

SCALE: 3/4" = 1'-0"

THE PURPOSE OF THIS PLAN IS TO REVISE THE SEPTIC SYSTEM.

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWAGE SYSTEMS
HOWARD COUNTY HEALTH DEPARTMENT

for COUNTY HEALTH OFFICER — 7/22/11 DATE

McCRONE
Engineering • Environmental Sciences • Construction Services • Land Planning & Surveying
ANNAPOLIS • CENTREVILLE • DOVER • ELKTON • SALISBURY
20 HIGHLY AVENUE ANNAPOLIS, MARYLAND 21401
PHONE (410) 267-8821 • FAX (410) 267-8822
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STATE OF MARYLAND — MICHAEL J. SCHEINBERG — No. 17737 — PROFESSIONAL ENGINEER
6-21-2011

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 17737, Expiration Date:3/29/12.

DATE	DESCRIPTION
4/18/11	REPLACEMENT SHEET

REVISION BLOCK

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Director – Department of Planning and Zoning — Date 7/27/11

Chief, Division of Land Development — Date 7-26-11

Chief, Development Engineering Division — Date 7.14.11

OWNER/DEVELOPER
ANIMAL MEDICAL HOSPITAL
AT GLENWOOD
2465 MARYLAND ROUTE 97
– SUITE 7
GLENWOOD, MARYLAND 21738
DR. STUART N. SCHEINBERG D.V.M.
(410) 489-9677

Address Chart

BUILDING NO.	STREET ADDRESS
1. HOSPITAL	2890 McKENDREE ROAD
2. KENNEL	2892 McKENDREE ROAD

PROJECT			SECTION/AREA	PARCEL	LOT
ANIMAL MEDICAL HOSPITAL DOG KENNEL AND PET GROOMING ESTABLISHMENT			N/A	P/O 217	5
PLAT REF.	BLOCK NO.	ZONE	TAX MAP	ELEC. DIST.	CENSUS TR.
19072	11	RR-DEO	14	FOURTH	6040.02
WATER CODE	N/A		SEWER CODE	N/A	

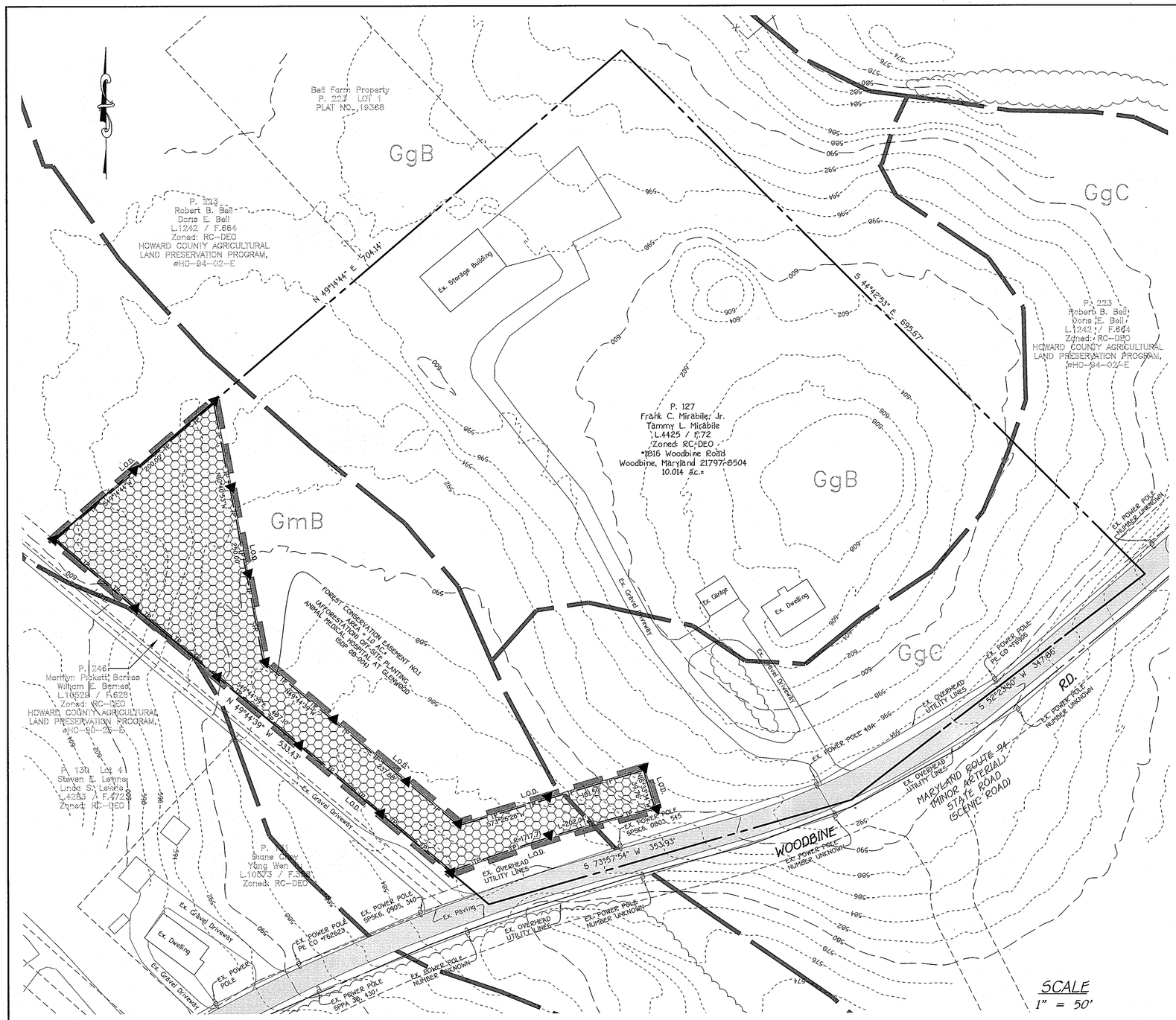
SEPTIC SYSTEM PUMP STATION

"REVISED SITE DEVELOPMENT PLAN"
ANIMAL MEDICAL HOSPITAL
AT GLENWOOD
GREEN MEADOWS
LOT 5

TAX MAP No.: 14 GRID No.: 11
PLAT NO. 19072 P/O PARCEL No.: 217
FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: 1" = 40' DATE: FEBRUARY 11, 2007

SHEET 17 OF 19

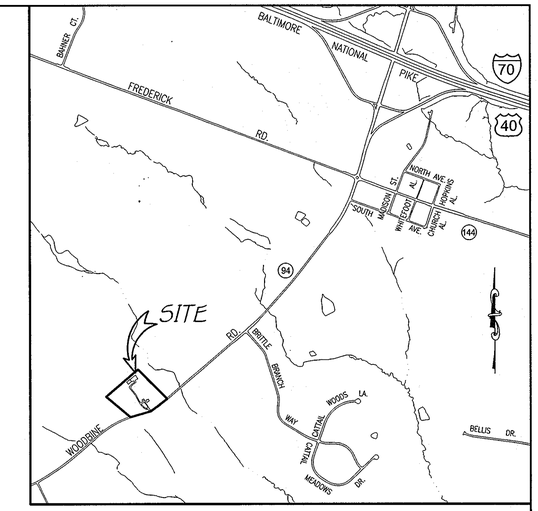
SDP-08-004



SCALE
1" = 50'

LEGEND

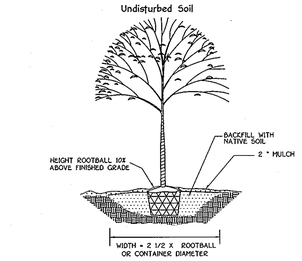
	DENOTES PROPOSED RECORDED FOREST CONSERVATION EASEMENT *1 ANIMAL MEDICAL HOSPITAL AT GLENWOOD GREEN MEADOWS LOT 5 (SDP 08-004) 1.0 ACRE TO BE PLANTED
L.O.D.	DENOTES: LIMIT OF DISTURBANCE
TP —— TP	DENOTES: TREE PROTECTION FENCING (SEE DETAIL THIS SHEET)



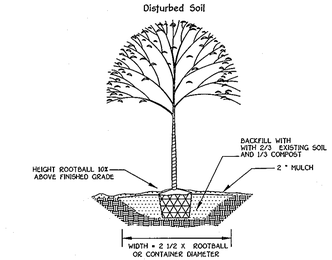
VICINITY MAP

SCALE: 1" = 1200'

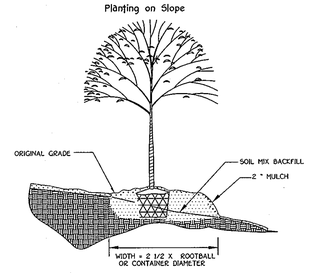
Undisturbed Soil



Disturbed Soil

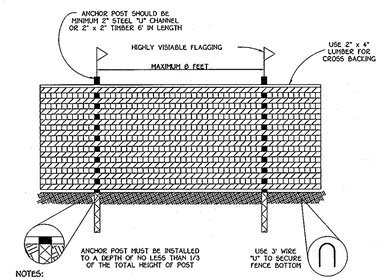


Planting on Slope



Container Grown And B&B Planting Techniques

BLAZE ORANGE PLASTIC MESH



NOTES:

1. FOREST PROTECTION DEVICE ONLY.
2. RETENTION AREA WILL BE SET AS PART OF THE REVIEW PROCESS.
3. BOUNDARIES OF RETENTION AREA SHOULD BE STAKED AND FLAGGED PRIOR TO INSTALLING DEVICE.
4. ROOT DAMAGE SHOULD BE AVOIDED.
5. PROTECTIVE SIGNAGE MAY ALSO BE USED.
6. DEVICE SHOULD BE MAINTAINED THROUGHOUT CONSTRUCTION.

TREE PROTECTION DETAIL

NOT TO SCALE

▲ - DENOTES AFFORESTATION PROJECT SIGN TO BE INSTALLED
- PROTECTIVE SIGNAGE SHALL BE IN PLACE FOR PERPETUITY

SOILS LEGEND

SOIL	NAME	CLASS
GgB	Glenelg loam, 3 to 8 percent slopes	B
GgC	Glenelg loam, 8 to 15 percent slopes	B
GmB	Glenville silt loam, 3 to 8 percent slopes	C

STATE OF MARYLAND
JAMES T. FERRON
No. 13204
REGISTERED
PROFESSIONAL ENGINEER

"Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland. License No. 13204, Expiration Date: November 3, 2008."

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWAGE SYSTEMS
HOWARD COUNTY HEALTH DEPARTMENT

B. Wilson for Peter Beilenson, M.D. 7/2/2008
COUNTY HEALTH OFFICER DATE

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

Eco-Science Professionals, Inc.
CONSULTING ECOLOGISTS
MD DNR Qualified Professional
USACOE Wetland Delineator
Certification # WDCP93M006100448
JOHN P. CANOLES

DATE	DESCRIPTION
1-26-11	REVISE SHEET NUMBER

REVISION BLOCK

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Director - Department of Planning and Zoning — Date 7/10/08

Chief, Division of Land Development — Date 7/7/08

Chief, Development Engineering Division — Date 5/21/08

OWNER
FRANK C. MIRABILE, JR. AND
TAMMY L. MIRABILE
1816 WOODBINE ROAD
WOODBINE, MARYLAND 21797-8504
(410) 442-2567

DEVELOPER
ANIMAL MEDICAL HOSPITAL
AT GLENWOOD
2465 MARYLAND ROUTE 97
SUITE 7
GLENWOOD, MARYLAND 21738
DR. STUART N. SCHEINBERG D.V.M.
(410) 489-9677

Address Chart

PARCEL NO.	STREET ADDRESS
127	1816 WOODBINE ROAD, WOODBINE, MD, 21797-8504

PROJECT			SECTION/AREA	PARCEL	LOT
OFF-SITE AFFORESTATION PLAN @ MIRABILE PROPERTY			N/A	127	N/A
DEED REF.	BLOCK NO.	ZONE	TAX MAP	ELEC. DIST.	CENSUS TR.
LIBER 4425 FOLIO 0072	16	RC-DEO	7	FOURTH	6040.02
WATER CODE	N/A		SEWER CODE	N/A	

OFF-SITE AFFORESTATION PLAN @ MIRABILE PROPERTY

TAX MAP No.: 7 GRID No.: 16
DEED REF. LIBER 4425 FOLIO 0072 PARCEL No.: 127
FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: DECEMBER 03, 2007

SHEET 18 OF 19 SDP-08-004

SDP-08-004

I:\2005\05950\dwg\05950 OFF-SITE AFFORESTATION (SHEET 21-22).dwg, OFF-SITE AFFORESTATION (SHEET 21), 1:1

OFFSITE PLANTING SCHEDULE

FCE # 1 for the Animal Medical Hospital at Glenwood - 1.0 acre
Planting units Required: 700
Planting units Provided: 700

OPTION 1

Qty	Species	Size	Spacing	Total FCA Units
28	Acer rubrum - Red maple	1" cal.	15' o.c.	
28	Acer saccharinum - Silver maple	1" cal.	15' o.c.	
28	Liriodendron tulipifera - Tulip poplar	1" cal.	15' o.c.	
28	Platanus occidentalis - Sycamore	1" cal.	15' o.c.	
28	Quercus alba - White oak	1" cal.	15' o.c.	
140	Total 1" caliper trees x 3.5 units/tree = FCA unit credit			490
15	Acer rubrum - Red maple	2-3' whip	11' o.c.	
15	Acer saccharinum - Silver maple	2-3' whip	11' o.c.	
25	Liriodendron tulipifera - Tulip poplar	2-3' whip	11' o.c.	
10	Platanus occidentalis - Sycamore	2-3' whip	11' o.c.	
10	Prunus serotina - Black Cherry	2-3' whip	11' o.c.	
10	Quercus alba - White oak	2-3' whip	11' o.c.	
20	Viburnum prunifolium - Blackhaw	2-3' whip	11' o.c.	
105	Total whip plantings x 2 units/tree = FCA unit credit			210
			Total Unit Credit	700

OPTION 2

Qty	Species	Size	Spacing	Total FCA Units
40	Acer rubrum - Red maple	1" cal.	15' o.c.	
40	Acer saccharinum - Silver maple	1" cal.	15' o.c.	
40	Liriodendron tulipifera - Tulip poplar	1" cal.	15' o.c.	
40	Platanus occidentalis - Sycamore	1" cal.	15' o.c.	
40	Quercus alba - White oak	1" cal.	15' o.c.	
200	Total 1" caliper trees x 3.5 units/tree = FCA unit credit			700
			Total Unit Credit	700

OPTION 3

Qty	Species	Size	Spacing	Total FCA Units
16	Acer rubrum - Red maple	1" cal.	15' o.c.	
16	Acer saccharinum - Silver maple	1" cal.	15' o.c.	
16	Liriodendron tulipifera - Tulip poplar	1" cal.	15' o.c.	
16	Platanus occidentalis - Sycamore	1" cal.	15' o.c.	
16	Quercus alba - White oak	1" cal.	15' o.c.	
80	Total 1" caliper trees x 3.5 units/tree = FCA unit credit			280
30	Acer rubrum - Red maple	2-3' whip	11' o.c.	
30	Acer saccharinum - Silver maple	2-3' whip	11' o.c.	
40	Liriodendron tulipifera - Tulip poplar	2-3' whip	11' o.c.	
25	Platanus occidentalis - Sycamore	2-3' whip	11' o.c.	
30	Prunus serotina - Black Cherry	2-3' whip	11' o.c.	
30	Quercus alba - White oak	2-3' whip	11' o.c.	
25	Viburnum prunifolium - Blackhaw	2-3' whip	11' o.c.	
210	Total whip plantings x 2 units/tree = FCA unit credit			420
			Total Unit Credit	700

Planting Notes:

Three planting options are provided so allow flexibility for the property owner. Only one planting option schedule needs to be followed.

Planting density based spacing requirements:1" caliper trees @ 15' on center, whips with shelter @ 11' on center.

1" caliper trees should be staggered along the perimeter of the planting area to serve as demarcation of the boundary. The trees should be no closer than 15 foot spacing.

Planting may be made in a curvilinear fashion along contour. The planting should avoid a grid appearance but should be spaced to facilitate maintenance

Multiflora rose/heavy brush removal/control may be required prior to installation of planting.

All whips are required to be installed with tree shelters per Howard County FCA requirements.

Planting units defined by the spacing requirements established in the FCA Manual. One plant unit is defined as 1 seedling or whip without shelter. The Manual states that 700 seedlings/whips without shelters are required per acre, or 350 whips w/shelters, or 200 1" caliper trees, or 100 2" caliper trees. By conversion it has been determined that a seeding or whip without shelter = 1 unit, whip with shelter = 2 units, 1"caliper tree = 3.5 units and 2" caliper tree =7 units. The use of plant units simplifies the plant density calculations when mixing stock size.

CONSTRUCTION PERIOD PROTECTION PROGRAM

A. Forest Protection Techniques

1. Soil Protection Area (Critical Root Zone)

The soil protection area, or critical root zone, of a tree is that portion of the soil column where most of its roots may be found. The majority of roots responsible for water and nutrient uptake are located just below the soil surface.

The limit of disturbance (LOD) line depicted on the plan shows the proposed extent of construction activities. Eco-Science Professionals, or another qualified professional designated by the developer, will assist in the field flagging of the LOD to ensure that the Critical Root Zone for the Forest Retention Area is determined in accordance with the In-Field Edge Determination Guidelines in Appendix B. Eco-Science Professionals, or another qualified professional, will also assess the condition of the new forest edge to determine if selective thinning or pruning is needed to improve the condition of the edge.

2. Fencing and Signage

All forest retention areas will be protected from unauthorized intrusion by appropriate signage and fencing. Signage and fencing will be installed prior to any construction activity. Eco-Science Professionals or another qualified professional will supervise installation of these devices. Fencing will placed along all LOD lines that occur within 35 feet of existing treelines. Signage will be placed along the edge of the FCE every 50-100 feet. Fencing will consist of blaze orange mesh fence or super silt fence. See Forest Conservation Plan for standard specifications.

B. Pre-Construction Meeting

Upon staking of limits of disturbance and installation of all signage, a pre-construction meeting will be held between the developer, contractor and appropriate County inspector. The purpose of the meeting will be to verify that all tree protection measures outlined in the FCP are in place, that all sediment control is in order, and to notify the contractor of possible penalties for non-compliance with the FCP.

C. Storage Facilities/Equipment Cleaning

All equipment storage, parking, sanitary facilities, material stockpiling, etc. associated with construction of the project will be restricted to those areas shown within the limit of disturbance. Cleaning of equipment will be prohibited from all forest retention areas. Wastewater resulting from equipment cleaning will be controlled to prevent runoff into wetlands, streams and other environmentally sensitive areas.

D. Sequence of Construction

The following timetable represents the proposed timetable for construction of the proposed project. The construction start date for this project has not been formalized. The actual project start date is predicated on the issuance of all necessary permits and approvals for the project. The items outlined in the Forest Conservation Plan will be enacted upon commencement of the project.

Below find a sequence of construction.

1. Install all tree protection signage, fencing, and sediment control devices.
2. Hold pre-construction meeting between developer, contractor and County inspector.
3. Grade site and construct improvements. Stabilize all disturbed areas in accordance with grading plan.
4. Remove sediment control. Replace any forest retention signage in poor condition.
5. Hold post-construction meeting with County inspectors to assure compliance with FCP.

E. Construction Monitoring

Eco-Science Professionals, or another qualified professional designated by the developer, will monitor construction of the project to ensure that all activities are in compliance with the Forest Conservation Plan. This will include inspections to ensure that signage is properly maintained and that no unauthorized intrusions have been made into forest retention areas.

F. Activities Permitted During Construction

The forest conservation plan will allow the following activities within forest resources during the construction phase of the project:

1. Passive recreation (birdwatching, hiking, etc.)

These activities will not damage or negatively impact the forest resources on the property.

G. Post-Construction Meeting

Upon completion of construction, Eco-Science Professionals, or another qualified professional designated by the developer, will notify the County that construction has been completed and arrange for a post-construction meeting to review the project site. The meeting will allow the County inspector to verify that all Forest Conservation Easement areas have been properly retained and that all post construction protection measures (permanent signage) have been installed.

POST-CONSTRUCTION MANAGEMENT PLAN

The post-construction management plan will further ensure that all Forest Conservation Easement Areas are maintained. The developer will be responsible for implementation of the post-construction management plan.

The following items will be incorporated into the plan for the subject property:

A. Signage

Signage indicating the limits of the forest retention areas shall be maintained and shall be in place for perpetuity.

Project Notes - Animal Medical Hospital at Glenwood

1. Any Forest Conservation Easement (FCE) area shown hereon is subject to protective covenants which may be found in the Land Records of Howard County which restrict the disturbance and use of these areas.
2. Forested areas occurring outside of the FCE shall not be considered part of the FCE and shall not be subject to protective land covenants.
3. Limits of disturbance shall be restricted to areas outside the limit of temporary fencing or the FCE boundary, whichever is greater.
4. There shall be no clearing, grading, construction or disturbance of vegetation in the Forest Conservation Easement, except as permitted by Howard County DPZ.
5. No stockpiles, parking areas, equipment-cleaning areas, etc. shall occur within areas designated as Forest Conservation Easements.
6. Temporary fencing shall be used to protect forest resources during construction. The fencing shall be placed along all FCE boundaries that occur within 15 feet of the proposed limits of disturbance.
7. The Forest Conservation Act requirements for this project include 1.0 acre of afforestation. The afforestation obligation for this project shall be met through reforestation on the Mirabile Property subdivision.

Mirabile Property
Offsite Planting Area Existing Condition Note:

The offsite afforestation area is currently maintained as field. The overall property is used as a single-family residence with associated uses. A small barn is located in the rear of the property. Landscaping is present around the home, lawn and barn areas. The planting area is mowed field. The planting area contains a grassed swale that conveys overland surface flows from the adjacent uplands. No wetlands, streams or forest are present on the site .

Planting/Soil Specifications

1. Installation of bareroot/plug plant stock shall take place between March 15 - April 20; b&b/container stock March 15 -May 30 or September 15 - November 15. Fall planting of B&B stock is not recommended.
2. Disturbed areas shall be seeded and stabilized as per general construction plan for project. Planting areas not impacted by site grading shall have no additional topsoil installed.
3. Bareroot plants shall be installed so that the top of root mass is level with the top of existing grade. Roots shall be dipped in an anti-desiccant gel prior to planting. Backfill in the planting pits shall consist of 3 parts existing soil to 1 part pine fines or equivalent.
4. Fertilizer shall consist of Agriform 22-8-2, or equivalent, applied as per manufacturer's specifications, for woody plants. Herbaceous plant shall be fertilized with Osmocote 8-6-12.
5. Plant material shall be transported to the site in a tarped or covered truck. Plants shall be kept moist prior to planting.
6. The contractor shall remove all non-organic debris associated with the planting operation from the site.

Sequence of Construction

1. Sediment control shall be installed in accordance with general construction plan for site.
2. Plants shall be installed as per Plant Schedule and the Planting/Soil Specifications for the project.
3. Upon completion of the planting, signage shall be installed as shown.
4. Plantings shall be maintained and guaranteed in accordance with the Maintenance and Guarantee requirements for project.

Maintenance of Plantings

1. Maintenance of plantings shall last for a period of (3) years.
2. Plantings must receive 2 gallons of water, either through precipitation or watering, weekly during the 1st growing season, as needed. During second growing season, once a month during May-September, if needed.
3. Invasive exotics and noxious weeds will be removed, as required, from planting areas mechanically and/or with limited herbicide. Old field successional species will be retained.
4. Plants shall be examined a minimum two times during the growing season for serious plant pests and diseases. Serious problems will be treated with the appropriate agent.
5. Dead branches will be pruned from plantings.

Guarantee Requirements

1. A 75 percent survival rate of forestation plantings will be required at the end of two growing seasons. All plant material below the 75 percent threshold will be replaced at the beginning of the next growing season. Wild trees arising from natural regeneration may be counted up to 50 percent towards the total survival number if they are healthy, native species at least 12 inches tall.

Education of New Occupants

1. The developer shall provide educational information to all property owners within the new development/home about the proper use of forest conservation areas.

Final Inspection and Release of Obligations

1. At the end of the post-construction management and protection period the developer shall submit a certification to the County that all forest conservation areas have remained intact or have been restored to appropriate condition, that the stipulated survival rates have been achieved, and that any permanent protection measures required by the plan are in place. Upon review and acceptance, the County will inform the developed of their release the development of future obligations related to the Forest Conservation Act.

FOREST CONSERVATION WORKSHEET

Version 1.0

Project: Mirable Property Offsite Planting Site **
Date: November 30, 2007

NET TRACT AREA			Acres
A. Total tract area			10.0
B. Area within 100 Year Floodplain			
C. Area to remain in agricultural production			
D. Net Tract Area			10.0
LAND USE CATEGORY: (from table 3.2.1, page 40, Manual) ARA MDR IDA HDR MPD CIA X			
E. Afforestation Threshold	(percentage)	20%	2.0
F. Conservation Threshold	(percentage)	25%	2.5
EXISTING FOREST COVER:			
G. Existing forest cover (excluding floodplain)			0
H. Area of forest above afforestation threshold			0
I. Area of forest above conservation threshold			0
BREAK EVEN POINT:			
J. Forest retention above threshold with no mitigation			
Break-even Point			
K. Clearing permitted without mitigation			
PROPOSED FOREST CLEARING			
L. Total area of forest to be cleared or Retained Outside FCE			
M. Total area of forest to be Retained in FCE			
PLANTING REQUIREMENTS			
N. Reforestation for clearing above conservation threshold			
P. Reforestation for clearing below conservation threshold			
Q. Credit for retention above conservation threshold			
R. Total reforestation required			
S. Total afforestation required			2.0**
T. Total reforestation and afforestation required			2.0**

**** The proposed planting on the Mirable Property is not subject to the Forest Conservation obligations. If future development activities are pursued which require FCA compliance, that activity would be required to meet the 2.0 acre afforestation obligation.**

FOREST CONSERVATION WORKSHEET

Version 1.0

Project: Animal Medical Hospital at Glenwood
Date: June 22, 2007

NET TRACT AREA			Acres
A. Total tract area			5.0
B. Area within 100 Year Floodplain			
C. Area to remain in agricultural production			0
D. Net Tract Area			5.0
LAND USE CATEGORY: (from table 3.2.1, page 40, Manual) ARA MDR IDA HDR MPD CIA X			
E. Afforestation Threshold	(percentage)	20%	1.0
F. Conservation Threshold	(percentage)	25%	1.3
EXISTING FOREST COVER:			
G. Existing forest cover (excluding floodplain)			0
H. Area of forest above afforestation threshold			0
I. Area of forest above conservation threshold			0
BREAK EVEN POINT:			
J. Forest retention above threshold with no mitigation			
Break-even Point			
K. Clearing permitted without mitigation			
PROPOSED FOREST CLEARING			
L. Total area of forest to be cleared or Retained Outside FCE			0
M. Total area of forest to be Retained in FCE			0
PLANTING REQUIREMENTS			
N. Reforestation for clearing above conservation threshold			0
P. Reforestation for clearing below conservation threshold			0
Q. Credit for retention above conservation threshold			0
R. Total reforestation required			0
S. Total afforestation required			1.0
T. Total reforestation and afforestation required			1.0

Typical Planting Layout

Lt	Ps	Lt	Ar
As	Po	Lt	
Qa	Vp	Ar	As
Lt	Ps	Po	
Ar	As	Lt	Lt

This diagram shows a typical dispersal of species within planting area. The spacing shall be in accordance with the approved planting schedule. Where the size of the planting stock varies, the planting units shall be installed at averaged spacing to provide approximately uniform coverage.

STATE OF MARYLAND — CHARLES L. CROSS — No. 13204 — REGISTERED PROFESSIONAL ENGINEER

"Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 13204, Expiration Date: November 3, 2008."

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWAGE SYSTEMS
HOWARD COUNTY HEALTH DEPARTMENT

B Jennifer Peter Beilenson, MD 7/2/2008
COUNTY HEALTH OFFICER DATE

AFFORESTATION NOTES

ANIMAL MEDICAL HOSPITAL AT GLENWOOD

GREEN MEADOWS
LOT 5

TAX MAP No.: 14 GRID No.: 11
PLAT NO. 19072 P/O PARCEL No.: 217
FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: FEBRUARY 11, 2007

SHEET 19 OF 19 SDP-08-004

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
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Eco-Science Professionals, Inc.
CONSULTING ECOLOGISTS
MD DNR Qualified Professional
USACOE Wetland Delineator
Certification # WDCP93MD0610044B
JOHN P. CANOLES

DATE	DESCRIPTION
1-26-11	REVISE SHEET NUMBER

REVISION BLOCK

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Director - Department of Planning and Zoning — Date 7/2/08
Chief, Division of Land Development — Date 7/2/08
Chief, Development Engineering Division NY — Date 7/2/08

OWNER/DEVELOPER
ANIMAL MEDICAL HOSPITAL
AT GLENWOOD
2465 MARYLAND ROUTE 97
SUITE 7
GLENWOOD, MARYLAND 21738
DR. STUART N. SCHEINBERG D.V.M.
(410) 489-9677

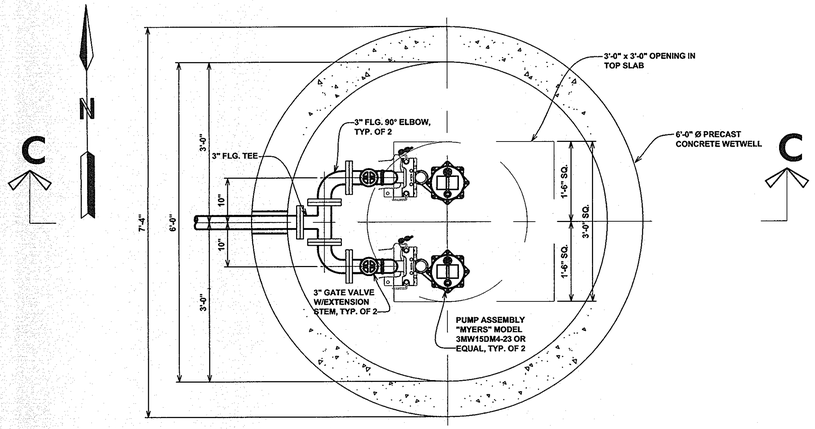
Address Chart

BUILDING NO.	STREET ADDRESS
1. HOSPITAL	2890 McKENDREE ROAD
2. KENNEL	2892 McKENDREE ROAD

PROJECT			SECTION/AREA	PARCEL	LOT
ANIMAL MEDICAL HOSPITAL DOG KENNEL AND PET GROOMING ESTABLISHMENT			N/A	P/O 217	5
PLAT REF.	BLOCK NO.	ZONE	TAX MAP	ELEC. DIST.	CENSUS TR.
19072	11	RR-DEO	14	FOURTH	6040.02
WATER CODE N/A		SEWER CODE N/A			

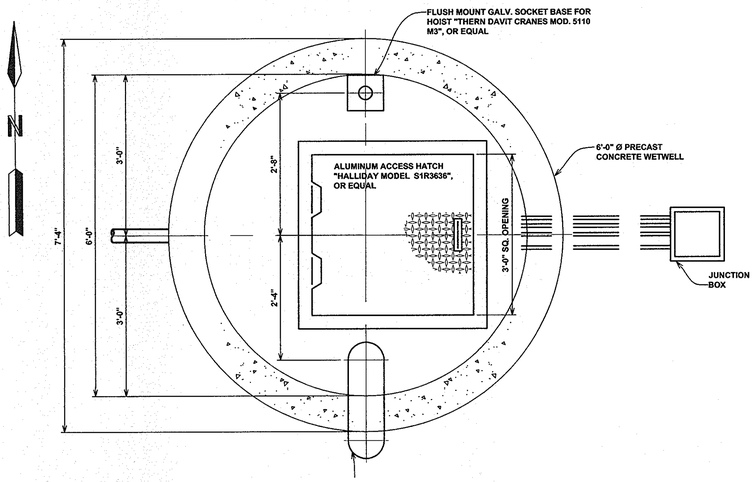
SDP-08-004

I:\2005\05090\dwg\05090 OFF-SITE AFFORESTATION (SHEET 21-22).dwg, NOTES (SHEET 22), 1:1



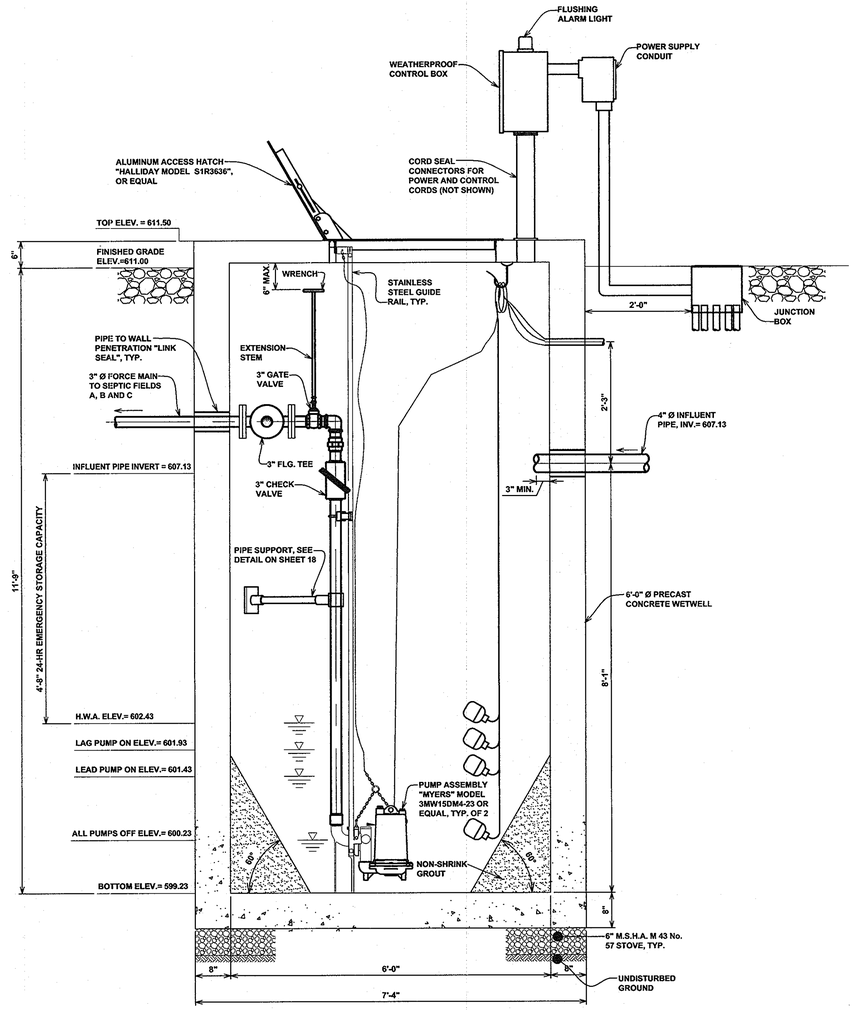
PLAN

SCALE: 3/4" = 1'-0"



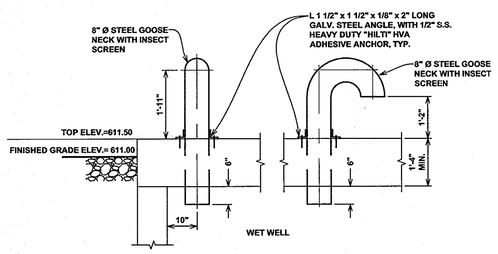
TOP SLAB

SCALE: 3/4" = 1'-0"



SECTION C-C

SCALE: 3/4" = 1'-0"

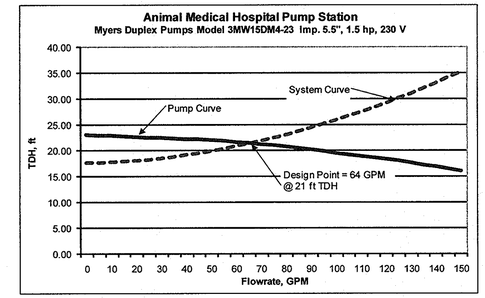


GOOSE NECK DETAIL

SCALE: 1/2" = 1'-0"

NOTES:

1) CONTRACTOR SHALL VERIFY THE SOIL BEARING CAPACITY PRIOR TO INSTALLATION OF WET WELL.
2) CONTRACTOR SHALL PROVIDE EXTRA CABLE LENGTH TO ENABLE THE HOIST WINCH TO BE THREADED WITH THE CABLE FOR PUMP REMOVAL.



APPROVED: FOR PRIVATE WATER AND PRIVATE SEWAGE SYSTEMS
HOWARD COUNTY HEALTH DEPARTMENT

B Nyman for Peter Beilenson, MD 7/2/2008
COUNTY HEALTH OFFICER DATE

SS 7/09

McCRONE
Engineering · Environmental Sciences · Construction Services · Land Planning & Surveying
ANNAPOLIS • CENTREVILLE • DOVER • ELKTON • SALISBURY
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ANNAPOLIS, MARYLAND 21401
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STATE OF MARYLAND
CHRISTOPHER MICHAEL BERG
No. 17157
PROFESSIONAL ENGINEER
2-12-2008

Professional Certification.
I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 17157, Expiration Date: 5-24-2008

DATE	DESCRIPTION
	REVISION BLOCK

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Director – Department of Planning and Zoning — Date 7/7/08

Chief, Division of Land Development — Date 7/7/08

Chief, Development Engineering Division N.Y. — Date 7/7/08

OWNER/DEVELOPER
ANIMAL MEDICAL HOSPITAL
AT GLENWOOD
2465 MARYLAND ROUTE 97
SUITE 7
GLENWOOD, MARYLAND 21738
DR. STUART N. SCHEINBERG D.V.M.
(410) 489-9677

Address Chart

BUILDING NO.	STREET ADDRESS
1. HOSPITAL	2890 McKENDREE ROAD
2. KENNEL	2892 McKENDREE ROAD

PROJECT			SECTION/AREA	PARCEL	LOT
ANIMAL MEDICAL HOSPITAL DOG KENNEL AND PET GROOMING ESTABLISHMENT			N/A	P/O 217	5
PLAT REF.	BLOCK NO.	ZONE	TAX MAP	ELEC. DIST.	CENSUS TR.
19072	11	RR-DEO	14	FOURTH	6040.02
WATER CODE N/A			SEWER CODE N/A		

SEPTIC SYSTEM PUMP STATION

ANIMAL MEDICAL HOSPITAL
AT GLENWOOD
GREEN MEADOWS
LOT 5

TAX MAP No.: 14 GRID No.: 11
PLAT NO. 19072 P/O PARCEL No.: 217
FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: FEBRUARY 11, 2007

SHEET 20 OF 22 SDP-08-004

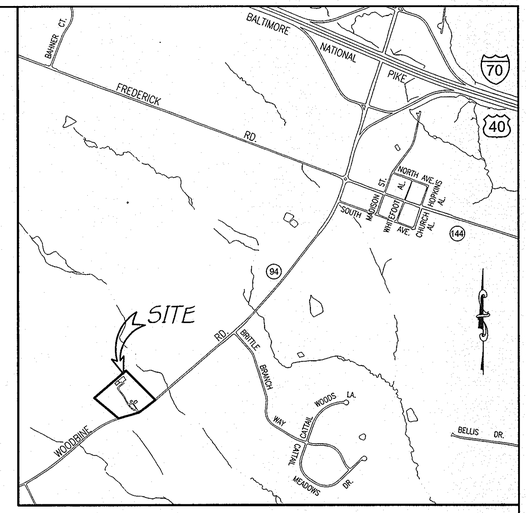
SDP-08-004

LEGEND

DENOTES PROPOSED RECORDED FOREST CONSERVATION EASEMENT #1 ANIMAL MEDICAL HOSPITAL AT GLENWOOD GREEN MEADOWS LOT 5 (SDP 08-004) 1.0 ACRE TO BE PLANTED

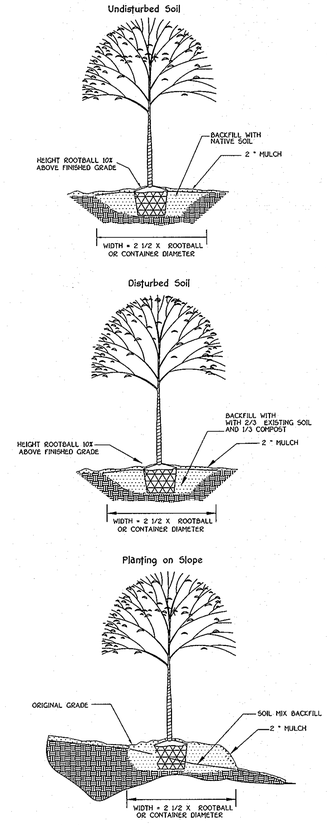
L.O.D. — DENOTES: LIMIT OF DISTURBANCE

TP——TP — DENOTES: TREE PROTECTION FENCING (SEE DETAIL THIS SHEET)



VICINITY MAP

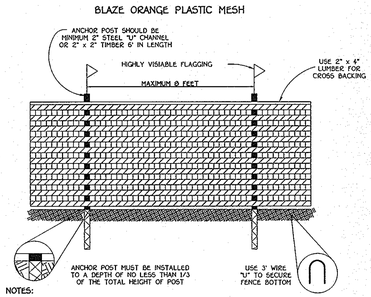
SCALE: 1" = 1200'



Container Grown And B&B Planting Techniques

SOILS LEGEND

SOIL	NAME	CLASS
GgB	Glenelg loam, 3 to 8 percent slopes	B
GgC	Glenelg loam, 8 to 15 percent slopes	B
GmB	Glenville silt loam, 3 to 8 percent slopes	C

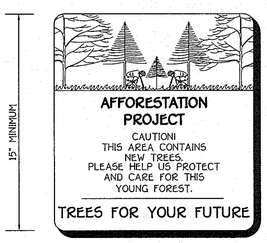


NOTES:

1. FOREST PROTECTION DEVICE ONLY.
2. RETENTION AREA WILL BE SET AS PART OF THE REVIEW PROCESS.
3. BOUNDARIES OF RETENTION AREA SHOULD BE STAKED AND FLAGGED PRIOR TO INSTALLING DEVICE.
4. ROOT DAMAGE SHOULD BE AVOIDED.
5. PROTECTIVE SIGNAGE MAY ALSO BE USED.
6. DEVICE SHOULD BE MAINTAINED THROUGHOUT CONSTRUCTION.

TREE PROTECTION DETAIL

NOT TO SCALE



▲ - DENOTES AFFORESTATION PROJECT SIGN TO BE INSTALLED
- PROTECTIVE SIGNAGE SHALL BE IN PLACE FOR PERPETUITY

STATE OF MARYLAND — JOHN P. CANOLES — No. 13204 — PROFESSIONAL ENGINEER

"Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 13204, Expiration Date: November 3, 2008."

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWAGE SYSTEMS
HOWARD COUNTY HEALTH DEPARTMENT

B Wilson for Peter Benkenstein MD — 7/2/2008
COUNTY HEALTH OFFICER — DATE

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

Eco-Science Professionals, Inc.
CONSULTING ECOLOGISTS
MD DNR Qualified Professional
USACOE Wetland Delineator
Certification # WDCP93MD0610044B
JOHN P. CANOLES

DATE	DESCRIPTION

REVISION BLOCK

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Director - Department of Planning and Zoning	7/10/08 Date
Chief, Division of Land Development	7/7/08 Date
Chief, Development Engineering Division	5/21/08 Date

OWNER
FRANK C. MIRABILE, JR. AND
TAMMY L. MIRABILE
1816 WOODBINE ROAD
WOODBINE, MARYLAND 21797-8504
(410) 442-2567

DEVELOPER
ANIMAL MEDICAL HOSPITAL
AT GLENWOOD
2465 MARYLAND ROUTE 97
SUITE 7
GLENWOOD, MARYLAND 21738
DR. STUART N. SCHEINBERG D.V.M.
(410) 489-9677

Address Chart

PARCEL NO.	STREET ADDRESS
127	1816 WOODBINE ROAD, WOODBINE, MD. 21797-8504

PROJECT			SECTION/AREA	PARCEL	LOT
OFF-SITE AFFORESTATION PLAN @ MIRABILE PROPERTY			N/A	127	N/A
DEED REF.	BLOCK NO.	ZONE	TAX MAP	ELEC. DIST.	CENSUS TR.
LIBER 4425 FOLIO 0072	16	RC-DEO	7	FOURTH	6040.02
WATER CODE	N/A		SEWER CODE	N/A	

OFF-SITE AFFORESTATION PLAN @ MIRABILE PROPERTY

TAX MAP No.: 7 GRID No.: 16
DEED REF. LIBER 4425 FOLIO 0072 PARCEL No.: 127
FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: DECEMBER 03, 2007

SHEET 21 OF 22 SDP-08-004

SDP-08-004

I:\2005\05090\dwg\05090 OFF-SITE AFFORESTATION (SHEET 21-22).dwg, OFF-SITE AFFORESTATION (SHEET 21), 1:1

OFFSITE PLANTING SCHEDULE

FCE # 1 for the Animal Medical Hospital at Glenwood - 1.0 acre
Planting units Required: 700
Planting units Provided: 700

OPTION 1

Qty	Species	Size	Spacing	Total FCA Units
28	Acer rubrum - Red maple	1" cal.	15' o.c.	
28	Acer saccharinum - Silver maple	1" cal.	15' o.c.	
28	Liriodendron tulipifera - Tulip poplar	1" cal.	15' o.c.	
28	Platanus occidentalis - Sycamore	1" cal.	15' o.c.	
28	Quercus alba - White oak	1" cal.	15' o.c.	
140	Total 1" caliper trees x 3.5 units/tree = FCA unit credit			490
15	Acer rubrum - Red maple	2-3' whip	11' o.c.	
15	Acer saccharinum - Silver maple	2-3' whip	11' o.c.	
25	Liriodendron tulipifera - Tulip poplar	2-3' whip	11' o.c.	
10	Platanus occidentalis - Sycamore	2-3' whip	11' o.c.	
10	Prunus serotina - Black Cherry	2-3' whip	11' o.c.	
10	Quercus alba - White oak	2-3' whip	11' o.c.	
20	Viburnum prunifolium - Blackhaw	2-3' whip	11' o.c.	
105	Total whip plantings x 2 units/tree = FCA unit credit			210
	Total Unit Credit			700

OPTION 2

Qty	Species	Size	Spacing	Total FCA Units
40	Acer rubrum - Red maple	1" cal.	15' o.c.	
40	Acer saccharinum - Silver maple	1" cal.	15' o.c.	
40	Liriodendron tulipifera - Tulip poplar	1" cal.	15' o.c.	
40	Platanus occidentalis - Sycamore	1" cal.	15' o.c.	
40	Quercus alba - White oak	1" cal.	15' o.c.	
200	Total 1" caliper trees x 3.5 units/tree = FCA unit credit			700
	Total Unit Credit			700

OPTION 3

Qty	Species	Size	Spacing	Total FCA Units
16	Acer rubrum - Red maple	1" cal.	15' o.c.	
16	Acer saccharinum - Silver maple	1" cal.	15' o.c.	
16	Liriodendron tulipifera - Tulip poplar	1" cal.	15' o.c.	
16	Platanus occidentalis - Sycamore	1" cal.	15' o.c.	
16	Quercus alba - White oak	1" cal.	15' o.c.	
80	Total 1" caliper trees x 3.5 units/tree = FCA unit credit			280
30	Acer rubrum - Red maple	2-3' whip	11' o.c.	
30	Acer saccharinum - Silver maple	2-3' whip	11' o.c.	
40	Liriodendron tulipifera - Tulip poplar	2-3' whip	11' o.c.	
25	Platanus occidentalis - Sycamore	2-3' whip	11' o.c.	
30	Prunus serotina - Black Cherry	2-3' whip	11' o.c.	
30	Quercus alba - White oak	2-3' whip	11' o.c.	
25	Viburnum prunifolium - Blackhaw	2-3' whip	11' o.c.	
210	Total whip plantings x 2 units/tree = FCA unit credit			420
	Total Unit Credit			700

Planting Notes:

Three planting options are provided so allow flexibility for the property owner. Only one planting option schedule needs to be followed.

Planting density based spacing requirements:1" caliper trees @ 15' on center, whips with shelter @ 11' on center.

1" caliper trees should be staggered along the perimeter of the planting area to serve as demarcation of the boundary. The trees should be no closer than 15 foot spacing.

Planting may be made in a curvilinear fashion along contour. The planting should avoid a grid appearance but should be spaced to facilitate maintenance

Multiflora rose/heavy brush removal/control may be required prior to installation of planting.

All whips are required to be installed with tree shelters per Howard County FCA requirements.

Planting units defined by the spacing requirements established in the FCA Manual. One plant unit is defined as 1 seedling or whip without shelter. The Manual states that 700 seedlings/whips without shelters are required per acre, or 350 whips w/shelters, or 200 1" caliper trees, or 100 2" caliper trees. By conversion it has been determined that a seedling or whip without shelter = 1 unit, whip with shelter = 2 units, 1"caliper tree = 3.5 units and 2" caliper tree =7 units. The use of plant units simplifies the plant density calculations when mixing stock size.

CONSTRUCTION PERIOD PROTECTION PROGRAM

A. Forest Protection Techniques

1. Soil Protection Area (Critical Root Zone)

The soil protection area, or critical root zone, of a tree is that portion of the soil column where most of its roots may be found. The majority of roots responsible for water and nutrient uptake are located just below the soil surface.

The limit of disturbance (LOD) line depicted on the plan shows the proposed extent of construction activities. Eco-Science Professionals, or another qualified professional designated by the developer, will assist in the field flagging of the LOD to ensure that the Critical Root Zone for the Forest Retention Area is determined in accordance with the In-Field Edge Determination Guidelines in Appendix B. Eco-Science Professionals, or another qualified professional, will also assess the condition of the new forest edge to determine if selective thinning or pruning is needed to improve the condition of the edge.

2. Fencing and Signage

All forest retention areas will be protected from unauthorized intrusion by appropriate signage and fencing. Signage and fencing will be installed prior to any construction activity. Eco-Science Professionals or another qualified professional will supervise installation of these devices. Fencing will placed along all LOD lines that occur within 35 feet of existing treelines. Signage will be placed along the edge of the FCE every 50-100 feet. Fencing will consist of blaze orange mesh fence or super silt fence. See Forest Conservation Plan for standard specifications.

B. Pre-Construction Meeting

Upon staking of limits of disturbance and installation of all signage, a pre-construction meeting will be held between the developer, contractor and appropriate County inspector. The purpose of the meeting will be to verify that all tree protection measures outlined in the FCP are in place, that all sediment control is in order, and to notify the contractor of possible penalties for non-compliance with the FCP.

C. Storage Facilities/Equipment Cleaning

All equipment storage, parking, sanitary facilities, material stockpiling, etc. associated with construction of the project will be restricted to those areas shown within the limit of disturbance. Cleaning of equipment will be prohibited from all forest retention areas. Wastewater resulting from equipment cleaning will be controlled to prevent runoff into wetlands, streams and other environmentally sensitive areas.

D. Sequence of Construction

The following timetable represents the proposed timetable for construction of the proposed project. The construction start date for this project has not been formalized. The actual project start date is predicated on the issuance of all necessary permits and approvals for the project. The items outlined in the Forest Conservation Plan will be enacted upon commencement of the project.

Below find a sequence of construction.

1. Install all tree protection signage, fencing, and sediment control devices.
2. Hold pre-construction meeting between developer, contractor and County inspector.
3. Grade site and construct improvements. Stabilize all disturbed areas in accordance with grading plan.
4. Remove sediment control. Replace any forest retention signage in poor condition.
5. Hold post-construction meeting with County inspectors to assure compliance with FCP.

E. Construction Monitoring

Eco-Science Professionals, or another qualified professional designated by the developer, will monitor construction of the project to ensure that all activities are in compliance with the Forest Conservation Plan. This will include inspections to ensure that signage is properly maintained and that no unauthorized intrusions have been made into forest retention areas.

F. Activities Permitted During Construction

The forest conservation plan will allow the following activities within forest resources during the construction phase of the project:

1. Passive recreation (birdwatching, hiking, etc.)

These activities will not damage or negatively impact the forest resources on the property.

G. Post-Construction Meeting

Upon completion of construction, Eco-Science Professionals, or another qualified professional designated by the developer, will notify the County that construction has been completed and arrange for a post-construction meeting to review the project site. The meeting will allow the County inspector to verify that all Forest Conservation Easement areas have been properly retained and that all post construction protection measures (permanent signage) have been installed.

POST-CONSTRUCTION MANAGEMENT PLAN

The post-construction management plan will further ensure that all Forest Conservation Easement Areas are maintained. The developer will be responsible for implementation of the post-construction management plan.

The following items will be incorporated into the plan for the subject property:

A. Signage

Signage indicating the limits of the forest retention areas shall be maintained and shall be in place for perpetuity.

Project Notes - Animal Medical Hospital at Glenwood

1. Any Forest Conservation Easement (FCE) area shown hereon is subject to protective covenants which may be found in the Land Records of Howard County which restrict the disturbance and use of these areas.
2. Forested areas occurring outside of the FCE shall not be considered part of the FCE and shall not be subject to protective land covenants.
3. Limits of disturbance shall be restricted to areas outside the limit of temporary fencing or the FCE boundary, whichever is greater.
4. There shall be no clearing, grading, construction or disturbance of vegetation in the Forest Conservation Easement, except as permitted by Howard County DPZ.
5. No stockpiles, parking areas, equipment-cleaning areas, etc. shall occur within areas designated as Forest Conservation Easements.
6. Temporary fencing shall be used to protect forest resources during construction. The fencing shall be placed along all FCE boundaries that occur within 15 feet of the proposed limits of disturbance.
7. The Forest Conservation Act requirements for this project include 1.0 acre of afforestation. The afforestation obligation for this project shall be met through reforestation on the Mirabile Property subdivision.

Mirabile Property
Offsite Planting Area Existing Condition Note:

The offsite afforestation area is currently maintained as field. The overall property is used as a single-family residence with associated uses. A small barn is located in the rear of the property. Landscaping is present around the home, lawn and barn areas. The planting area is mowed field. The planting area contains a grassed swale that conveys overland surface flows from the adjacent uplands. No wetlands, streams or forest are present on the site .

Planting/Soil Specifications

1. Installation of bareroot/plug plant stock shall take place between March 15 - April 20; b&b/container stock March 15 -May 30 or September 15 - November 15. Fall planting of B&B stock is not recommended.
2. Disturbed areas shall be seeded and stabilized as per general construction plan for project. Planting areas not impacted by site grading shall have no additional topsoil installed.
3. Bareroot plants shall be installed so that the top of root mass is level with the top of existing grade. Roots shall be dipped in an anti-desiccant gel prior to planting. Backfill in the planting pits shall consist of 3 parts existing soil to 1 part pine fines or equivalent.
4. Fertilizer shall consist of Agriform 22-8-2, or equivalent, applied as per manufacturer's specifications, for woody plants. Herbaceous plant shall be fertilized with Osmocote 8-6-12.
5. Plant material shall be transported to the site in a tarped or covered truck. Plants shall be kept moist prior to planting.
6. The contractor shall remove all non-organic debris associated with the planting operation from the site.

Sequence of Construction

1. Sediment control shall be installed in accordance with general construction plan for site.
2. Plants shall be installed as per Plant Schedule and the Planting/Soil Specifications for the project.
3. Upon completion of the planting, signage shall be installed as shown.
4. Plantings shall be maintained and guaranteed in accordance with the Maintenance and Guarantee requirements for project.

Maintenance of Plantings

1. Maintenance of plantings shall last for a period of (3) years.
2. Plantings must receive 2 gallons of water, either through precipitation or watering, weekly during the 1st growing season, as needed. During second growing season, once a month during May-September, if needed.
3. Invasive exotics and noxious weeds will be removed, as required, from planting areas mechanically and/or with limited herbicide. Old field successional species will be retained.
4. Plants shall be examined a minimum two times during the growing season for serious plant pests and diseases. Serious problems will be treated with the appropriate agent.
5. Dead branches will be pruned from plantings.

Guarantee Requirements

1. A 75 percent survival rate of forestation plantings will be required at the end of two growing seasons. All plant material below the 75 percent threshold will be replaced at the beginning of the next growing season. Wild trees arising from natural regeneration may be counted up to 50 percent towards the total survival number if they are healthy, native species at least 12 inches tall.

Education of New Occupants

1. The developer shall provide educational information to all property owners within the new development/home about the proper use of forest conservation areas.

Final Inspection and Release of Obligations

1. At the end of the post-construction management and protection period the developer shall submit a certification to the County that all forest conservation areas have remained intact or have been restored to appropriate condition, that the stipulated survival rates have been achieved, and that any permanent protection measures required by the plan are in place. Upon review and acceptance, the County will inform the developed of their release the development of future obligations related to the Forest Conservation Act.

FOREST CONSERVATION WORKSHEET
Version 1.0

Project: Mirable Property Offsite Planting Site **
Date: November 30, 2007

NET TRACT AREA			Acres
A. Total tract area			10.0
B. Area within 100 Year Floodplain			
C. Area to remain in agricultural production			
D. Net Tract Area			10.0
LAND USE CATEGORY: (from table 3.2.1, page 40, Manual) ARA MDR IDA HDR MPD CIA X (MDR)			
E. Afforestation Threshold	(percentage)	20%	2.0
F. Conservation Threshold	(percentage)	25%	2.5
EXISTING FOREST COVER:			
G. Existing forest cover (excluding floodplain)			0
H. Area of forest above afforestation threshold			0
I. Area of forest above conservation threshold			0
BREAK EVEN POINT:			
J. Forest retention above threshold with no mitigation			
Break-even Point			
K. Clearing permitted without mitigation			
PROPOSED FOREST CLEARING			
L. Total area of forest to be cleared or Retained Outside FCE			
M. Total area of forest to be Retained in FCE			
PLANTING REQUIREMENTS			
N. Reforestation for clearing above conservation threshold			
P. Reforestation for clearing below conservation threshold			
Q. Credit for retention above conservation threshold			
R. Total reforestation required			
S. Total afforestation required			2.0**
T. Total reforestation and afforestation required			2.0**

** The proposed planting on the Mirable Property is not subject to the Forest Conservation obligations. If future development activities are pursued which require FCA compliance, that activity would be required to meet the 2.0 acre afforestation obligation.

FOREST CONSERVATION WORKSHEET
Version 1.0

Project: Animal Medical Hospital at Glenwood
Date: June 22, 2007

NET TRACT AREA			Acres
A. Total tract area			5.0
B. Area within 100 Year Floodplain			
C. Area to remain in agricultural production			0
D. Net Tract Area			5.0
LAND USE CATEGORY: (from table 3.2.1, page 40, Manual) ARA MDR IDA HDR MPD CIA X (ARA)			
E. Afforestation Threshold	(percentage)	20%	1.0
F. Conservation Threshold	(percentage)	25%	1.3
EXISTING FOREST COVER:			
G. Existing forest cover (excluding floodplain)			0
H. Area of forest above afforestation threshold			0
I. Area of forest above conservation threshold			0
BREAK EVEN POINT:			
J. Forest retention above threshold with no mitigation			
Break-even Point			
K. Clearing permitted without mitigation			
PROPOSED FOREST CLEARING			
L. Total area of forest to be cleared or Retained Outside FCE			0
M. Total area of forest to be Retained in FCE			0
PLANTING REQUIREMENTS			
N. Reforestation for clearing above conservation threshold			0
P. Reforestation for clearing below conservation threshold			0
Q. Credit for retention above conservation threshold			0
R. Total reforestation required			0
S. Total afforestation required			1.0
T. Total reforestation and afforestation required			1.0

Typical Planting Layout

Lt		Ps		Lt		Ar
	As		Po		Lt	
Qa		Vp		Ar		As
	Lt		Ps		Po	
Ar		As		Lt		Lt

This diagram shows a typical dispersal of species within planting area. The spacing shall be in accordance with the approved planting schedule. Where the size of the planting stock varies, the planting units shall be installed at averaged spacing to provide approximately uniform coverage.

"Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 13204, Expiration Date: November 3, 2008."

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWAGE SYSTEMS
HOWARD COUNTY HEALTH DEPARTMENT

COUNTY HEALTH OFFICER — 7/2/2008 — DATE

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

Eco-Science Professionals, Inc.
CONSULTING ECOLOGISTS
MD DNR Qualified Professional
USACOE Wetland Delineator
Certification # WDCP93MD0610044B
JOHN P. CANOLES

DATE	DESCRIPTION
	REVISION BLOCK

APPROVED: DEPARTMENT OF PLANNING AND ZONING
Director - Department of Planning and Zoning — Date 7/8/08
Chief, Division of Land Development — Date 7/2/08
Chief, Development Engineering Division — Date 5/20/08

OWNER/DEVELOPER
ANIMAL MEDICAL HOSPITAL
AT GLENWOOD
2465 MARYLAND ROUTE 97
SUITE 7
GLENWOOD, MARYLAND 21738
DR. STUART N. SCHEINBERG D.V.M.
(410) 489-9677

Address Chart

BUILDING NO.	STREET ADDRESS
1. HOSPITAL	2890 McKENDREE ROAD.
2. KENNEL	2892 McKENDREE ROAD

PROJECT	SECTION/AREA	PARCEL	LOT
ANIMAL MEDICAL HOSPITAL DOG KENNEL AND PET GROOMING ESTABLISHMENT	N/A	P/O 217	5

PLAT REF.	BLOCK NO.	ZONE	TAX MAP	ELEC. DIST.	CENSUS TR.
19072	11	RR-DEO	14	FOURTH	6040.02

WATER CODE N/A — SEWER CODE N/A

AFFORESTATION NOTES

ANIMAL MEDICAL HOSPITAL AT GLENWOOD
GREEN MEADOWS
LOT 5

TAX MAP No.: 14 GRID No.: 11
PLAT NO. 19072 P/O PARCEL No.: 217
FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: FEBRUARY 11, 2007

I:\2005\05090\dwg\05090 OFF-SITE AFFORESTATION (SHEET 21-22).dwg, NOTES (SHEET 22), 1:1